THE BOY TRAVELLERS IN THE FAR EAST

PART THIRD

ADVENTURES OF TWO YOUTHS IN A JOURNEY

TO

CEYLON AND INDIA

WITH DESCRIPTIONS OF BORNEO, THE PHILIPPINE ISLANDS AND BURMAH

BY

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"THE YOUNG NIMRODS" "CAMP-FIRE AND COTTON-FIELD" "OVERLAND THROUGH ASIA" "UNDERGROUND" "JOHN" "HOW TO TRAVEL" ETC.

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PREFACE.

THIS volume completes the series of "The Boy Travellers in the Far East." It attempts to describe Ceylon and India, together with Borneo, the Philippine Islands, and Burmah, in the same manner that the preceding volumes gave an account of Japan, China, Siam, Java, Cochin-China, Cambodia, and the Malay Archipelago.

Frank and Fred have continued their journey under the guidance of Doctor Bronson, and the plan of their travels is identical with that previously followed. The words of the last preface may be repeated in this: "The incidents of the narrative were mainly the experiences of the author at a recent date; and the descriptions of countries, cities, temples, people, manners, and customs are nearly all from his personal observations and notes. He has endeavored to give a faithful account of Ceylon, India, Burmah, and the Philippine Islands as they appear to-day, and trusts that the only fiction of the book is in the names of the individuals who tell the story."

As in the foregoing volumes, the narrative has been interrupted occasionally, in order to introduce matters of general interest to juvenile readers. The author hopes that the chapters on meteors, sea-serpents, and outrigger boats will meet the same welcome that was accorded to the episode of a whaling voyage, in the first volume, and the digressions concerning naval architecture, submarine explorations, and the adventures of Marco Polo, in the second.

The publishers have kindly allowed the use of illustrations that have appeared in previous publications, in addition to those specially prepared for this volume. The author has consulted the works of previous travellers in the Far East to supplement his own information, and is under obligations to several of them. As in the last volume, he

is specially indebted to Mr. Frank Vincent, Jr., author of "The Land of the White Elephant," for his descriptions of Burmah, and for the use of several of the engravings relative to that country. Other authorities have been generally credited in the text of the work, or in foot-notes to the pages where quotations are made.

In their departure from Bombay, Frank and Fred have left the Far East behind them; but, as they are yet a long way from home, they can hardly be said to have finished their travels. It is quite possible that they may be heard from again, in the company of their good friend, the Doctor, and may allow us, as they have heretofore, to glance at their letters to friends at home.

T. W. K.

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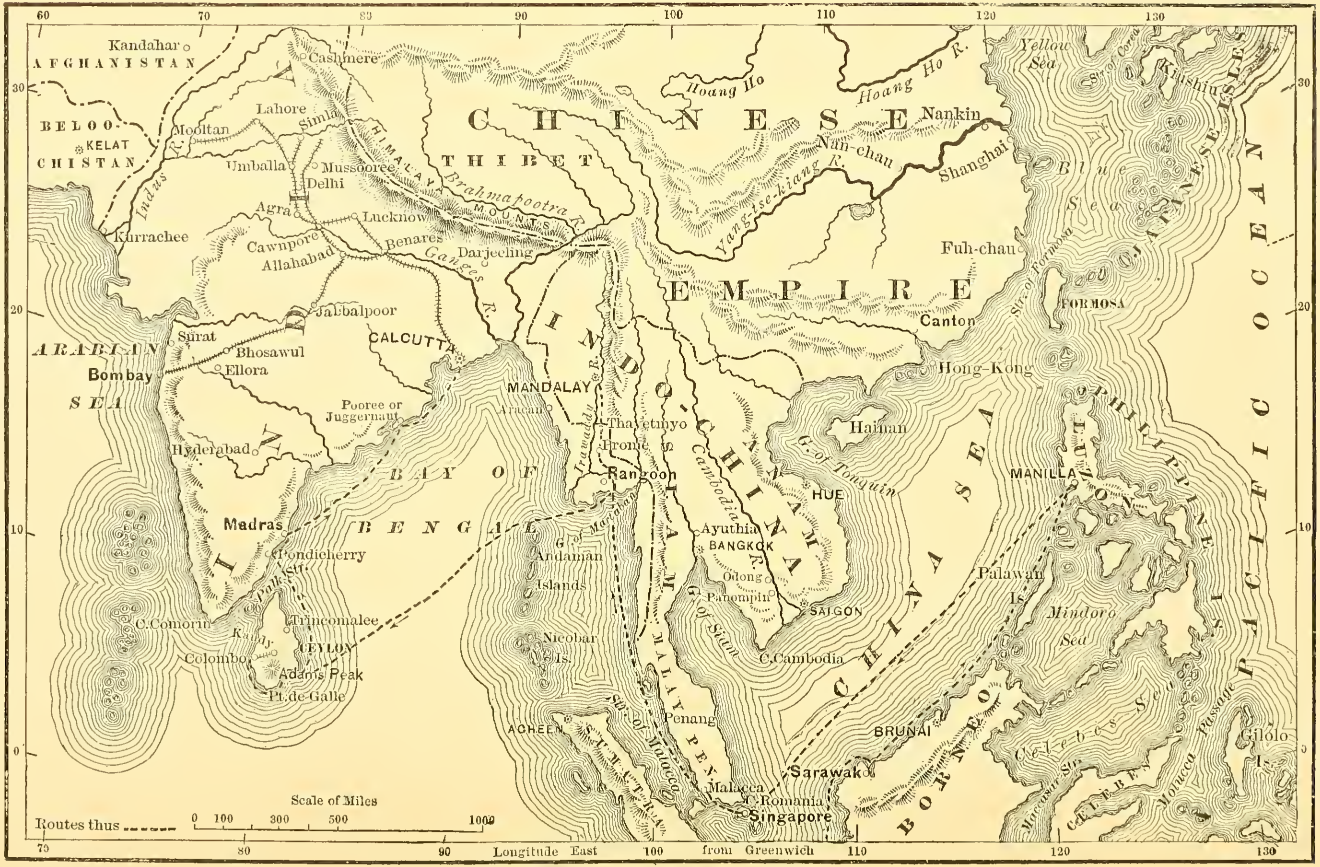
THE BOY TRAVELLERS IN CEYLON AND INDIA.



Map to accompany "The Boy Travellers in the Far East"

THE BOY TRAVELLERS

IN

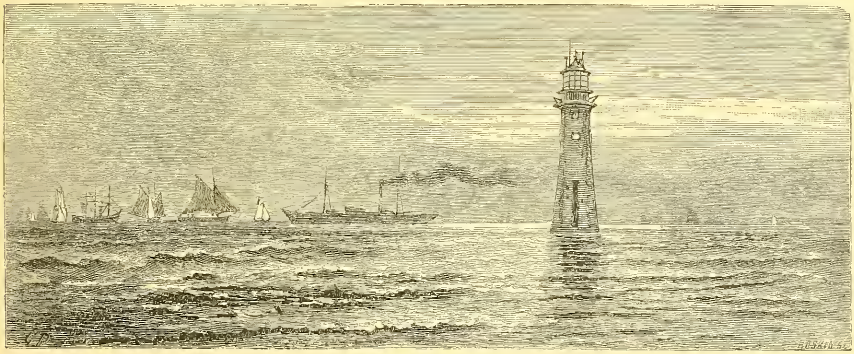
THE FAR EAST.

CHAPTER I.

DEPARTURE FROM JAVA.—VOYAGE TO BORNEO.

THE conference over the route to be followed from Batavia was long and animated. Frank and Fred each proposed at least a dozen plans, but as fast as a scheme was suggested it was overthrown in consequence of unforeseen difficulties.

While they were in the midst of their discussion, Doctor Bronson left



OUTWARD BOUND.

the room, and soon returned with a newspaper in his hand. The boys looked up, and by the smile on his face they at once understood that he held the solution of the puzzle. So they pushed aside the maps, and waited for him to speak.

"We start to-morrow morning," said the Doctor, "and must send our heavy baggage away in an hour."

"All right," responded the boys, cheerily; "we can be ready in half that time if necessary," Fred added, as he rose from the table, and was followed by Frank.

True to their promise, they were back again in less than half an hour, and declared that all was ready. The Doctor had been occupied with his trunks while the boys were preparing their effects, and as he had more to attend to than they, he was not quite as prompt. But before the end of the hour he joined them, and then the porter of the hotel was summoned to take away the baggage and see it safely on board the steamer.

"Now we shall know where we're going," said Frank, "and I suppose the Doctor's newspaper has something to do with our movements."

"Quite correct," the Doctor responded; "it has very much to do with them."

Then he opened the sheet, which was nothing more nor less than a paper printed at Batavia, in the Dutch language. He directed their attention to an advertisement, and they were not long in spelling it out and divining its meaning. It was to the effect that a steamer was to sail early the next day for Borneo and the Philippine Islands. The Doctor explained that he was fortunate enough to find the captain of this vessel in the office of the hotel, and had arranged for them to take passage on her to Sarawak and Manilla.

"I understand," said Frank, "Sarawak is in Borneo, and Manilla is the capital of the Philippine Islands. We shall visit both those places."

"Yes," replied Doctor Bronson, "the steamer goes first to Sarawak, where she has a lot of cargo to leave, and perhaps some to take, and then she proceeds to Manilla. If you study the map you will see that Sarawak is almost on a direct line from Batavia to Manilla."

They looked at the map, and found it as the Doctor had stated. Fred wished to learn something about Borneo, but the Doctor suggested they would have plenty of time for that on the voyage, and they had better devote the evening to a farewell drive through Batavia. The boys at once assented to the proposal, and as soon as a carriage could be called they were off.

Their drive led them along the broad avenues of Batavia, and close to the banks of one of the canals where a number of boys were enjoying an afternoon bath. Then they passed through a part of the Chinese quarter where Frank and Fred were greatly amused at the operation of shoeing a horse. The unhappy beast was tied between a couple of upright posts, and partially suspended from a horizontal beam, so that he had very little chance to kick or struggle. Evidently he had given up all idea of resist-

CHINESE HORSE-SHOEING.

ance, as he stood with his eyes half closed, and presented a general appearance of resignation.

Our friends returned to the hotel in good season for dinner, which contained the inevitable curry to which the boys had become accustomed during their sojourn in the tropics. Frank asked if they would bid good-bye to curry in leaving Java; he was assured that the article was destined to figure on their bill of fare for an indefinite period, as the countries they were to visit were inhabited by eaters of curry no less than were Siam and Java.

They went early to bed, and by daylight on the following morning were up and ready for departure.

They rode in a carriage to the "boom," or pier, where a small boat was waiting to take them to the steamer. They went out by the same canal that they entered on their arrival, and by seven o'clock they were on board the *Osprey*, that was to be their home for several days. The captain was there ahead of them, and before eight o'clock they were out-

ward bound, and leaving behind them the Island of Java, with its dense population and its wealth of natural products.

They watched the receding coast as long as it was in sight. Gradually it faded to a mere line on the horizon, and then disappeared altogether; but hardly had it vanished before they were in sight of Sumatra. All day they were within a few miles of its shores, and the boys longed greatly to make an exploration of this little-known region. They were obliged to be content with what they had learned of Sumatra on their journey to the southward, and recalled with pleasure the stories told them by their fellow-passenger on the steamer between Singapore and Batavia.

The adventures of our young friends, Frank Bassett and Fred Bronson, up to the time of their departure from Java, have been told in previous volumes.*

At the end of the first day the *Osprey* bore away to the eastward, near the island of Banca, famous for its mines of tin; and on the following morning the coast of Borneo was in sight. The boys declared their inability to discover any difference between Borneo and Sumatra when seen from the deck of a ship, as the general appearance of the land was the same.

"Very naturally that is the case," said the Doctor. "Both islands are tropical, and have the same characteristics in the way of mountains and valleys, and nearly all the trees of one are to be found on the other. The animal products are nearly alike, though the naturalists have found certain things in Borneo that do not exist in Sumatra, and *vice versa*. Now, tell me, please, which is the larger island of the two?"

"Borneo is the larger," Fred answered; "it is about 850 miles long by 650 broad in its widest part, and is estimated to contain nearly 300,000 square miles. Sumatra is 200 miles longer than Borneo, but only 250 wide, and its area is thought to be not far from 160,000 square miles."

"Quite right," responded the Doctor; "and now it's Frank's turn. What are the populations of the islands?"

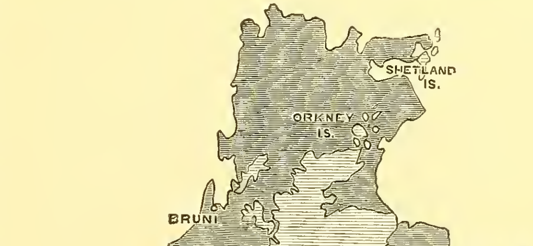
"The book we have just been reading," was the reply, "says that Sumatra has between three and four millions of inhabitants, while

* "The Boy Travellers in the Far East.—Parts I. and II. Adventures of Two Youths in a Journey to Japan, China, Siam, and Java, with Descriptions of Cochin-China, Cambodia, Sumatra, and the Malay Archipelago. By Thomas W. Knox. Published by Harper & Brothers, New York, 1880–'81."

Borneo has less than 3,000,000; therefore, Borneo must be very thinly peopled."

"To give you an idea of the density of the population, we will make a comparison. The Kingdom of Great Britain and Ireland," Doctor Bronson continued, "has more than 30,000,000 of inhabitants, with an area no larger than that of Sumatra, and far less than that of Borneo. Mr. Wallace, in his 'Malay Archipelago,' says the whole of the British Islands might be set down in Borneo, and would be surrounded by a sea of forests. Here is a map in which Borneo and the British Isles have been drawn to the same scale, and you see that Mr. Wallace's statement is entirely correct."

Several minutes were passed in the examination of the map, and the youths confessed their surprise at the information it gave them. They had no idea Borneo was so large, or, as Fred expressed it, that Great Britain was so small. The Doctor set them laughing with the story of the American who visited England and said he liked the country very much, but was afraid to go out in the evening through fear that he would walk off into the sea.



THE BRITISH ISLES AND BORNEO COMPARED.

It was a voyage of little more than two days from Batavia to Sarawak, the port in Borneo to which the *Osprey* was bound. The time was passed by our friends in conversation concerning the curious land they were about to visit, and certain features of its history. About noon of the third day from Singapore they were off the entrance of the Sarawak River, and, as the steamer was small, and of light draught, they were not delayed in passing the bar. Several native craft were on the stream, but they did not see a single

foreign-rigged vessel until they entered the river and were well on their way to the town.

Here is what Frank wrote in his note-book:

"The town of Sarawak is about eighteen miles from the sea, and the voyage up from the bar reminded us of the voyage from the mouth of the Menam to Bangkok. The banks are lined with tropical trees of all kinds, and sometimes the foliage is so dense that it would be next to impossible to go through it without a hatchet. The houses are built over the water in many instances, and they have platforms in front where you can land from small boats just as you land at a wharf from a ship. By

ASCENDING THE RIVER.

this arrangement the people are under no expense for drainage, as the water carries everything away as soon as it is thrown overboard. But the Doctor says the river abounds in snakes, just as the Menam does; and they come into the houses without waiting to be invited.

"The town contains about 25,000 inhabitants. They are mostly Malays and Chinese; the former have come from other parts of the archipelago, and the latter from the southern provinces of China, like their countrymen in Siam. The original inhabitants of the country do not get along very well with the Chinese and Malays, and the most of them prefer to live farther in the interior. There is nothing very remarkable

about the place, and you can see the most of it without going on shore, as it stands on the bank of the river, and none of the houses are very far from the water. We went ashore in a small boat rowed by Malays, and they made it go very fast with their strong arms at the oars: these Malays are excellent sailors and boatmen, and are preferred to any other nationality of the East, with the exception of the Chinese. Some of the ship captains say they would rather have a Malay crew than a Chinese one, as the Malays are less likely to become scared in a storm, and forget how to do their work.

"We took a walk through the principal street of Sarawak, and saw lots of men who were doing nothing, and evidently didn't wish to be employed. The most of the hard work is performed by the Chinese, and our observation is that they are the most industrious people of the Far East, and the best at a trade. The commerce here, apart from that which

A FRUIT-STORE IN SARAWAK.

the English control, is mostly in Chinese hands, so the Doctor tells us, and some of their merchants have made large fortunes. They trade in anything they can buy and sell, and are satisfied with small profits when they cannot get large ones, and some of their shops manage to get along with very few goods. We passed a fruit-store, where there were two or three boxes of oranges visible near the door, and a large bunch of bananas was hung outside for a sign, or perhaps to allow them to get ripe in the open air. One old fellow was smoking on the front step with his cat behind him, and three others were inside talking something we could not understand. They all appeared to belong to the establishment, but the whole stock of fruit, as far as we could see, wasn't worth ten dollars.

"The houses are not very substantial, and the Doctor said that an ordinary building in Sarawak ought not to cost over fifty dollars, while a cheap one, sufficient for protection against the weather, could be built for five or ten. There are a few substantial buildings; one is called the Government House, and is where the governor and his officials live; and there is an English Protestant church and mission. There is a considerable population of Mohammedans here, and they have a mosque where they go to worship every Friday. Friday, you know, is the Moslem Sunday, and on that day the faithful followers of Mohammed are unwilling to do any hard work; Fred says it must be Sunday all the time for a good many of them, if we are to judge by their perpetual idleness. But there isn't much inducement for a man to work here, when a very little will support him. He does not need any thick clothes where there is no winter, and if it were not for the rules of politeness some of them wouldn't wear any clothes at all.

"We should have been surprised to see the English flag flying over the place if we had not already learned something about the history of Sarawak. The town was formerly known as Kuching, and to this day some of the natives call it by that name. The river was the resort of the Malay pirates, who used to plunder all the coast and make it impossible for the natives to live there. The natives are called Dyaks; they seem to belong to both the Mongolian and Malay races, as they have the oblique eyes of the former, with the complexion and hair of the latter. They are said to be an honest and inoffensive people, and for this reason they were robbed by the Malays in former times, and are now cheated by both Malays and Chinese. They have a good deal of ingenuity about them, and some of their work would do credit to civilized people.

"We saw a party of them climbing a tree just back of the town to

get some cocoa-nuts; it was straight as an arrow, and about two feet in diameter, and hadn't a branch for at least forty feet. How do you suppose they did it?

"They made some pegs of pieces from a bamboo pole; then they drove one of them into the tree about three feet from the ground, and another the same distance higher up. Next they took a long pole, also of bamboo, rested one end of it on the ground, and lashed it firmly to the two pegs. Then a man stood on the lowest peg and drove another in at about the level of his face, and as soon as it was driven he lashed the pole to it. So he went on and on, and when the pole gave out another was passed up and lashed in the same way as the first. It took them about fifteen minutes to make a very nice ladder—one side being the tree, and the other the bamboo pole; and as soon as they had got to the lower branches of the tree, the nuts came tumbling to the ground, and the man scrambled down after them. The whole thing appeared very easy and simple, but it would take an American some time to accomplish it.

A DYAK YOUTH.

"The Dyaks are very fond of ornaments, and where they can afford it they cover their necks with beads and brass wire, and decorate their arms with large rings of brass or silver. Most of them wear gay-colored handkerchiefs on their heads, and it is easy to distinguish them from the foreign Malays by this mark alone. We saw one Dyak youth of ten or twelve years, who had an intelligent face and bright, flashing eyes; he belonged to one of the hill tribes, and had come down from his home in the mountains with his father to see the strangers on the coast. His hair floated over his shoulders in great masses, and his ears had rings in them that looked as though they weighed a pound. His only clothing, apart from the rings and beads and handkerchief, was a strip of cotton cloth around his waist; and he carried a spear to indicate that he belonged to one of the best families of the country."

CHAPTER II.

AN EXCURSION IN BORNEO.—STORY OF RAJAH BROOKE.

OUR young friends greatly desired to visit the interior of Borneo; but as the *Osprey* would only remain a couple of days at Sarawak, and they wished to continue in her to Manilla, they were obliged to abandon the idea. The Doctor engaged a native boat to take them a short dis-

SCENE ON THE RIVER.

tance up the Sarawak River, so that they could see something of the great island away from the sea, and they gladly accepted the proposal. "Half a loaf is better than no bread," said Frank, and his opinion was promptly echoed by his cousin. The captain of the *Osprey* agreed to wait for them until the afternoon of the second day, and they promised to be back early enough to allow the ship to get to sea before dark.

A Dyak village about thirty miles above Sarawak was their destina-

tion; the crew of the boat was composed of half a dozen natives with strong arms, and as they had promise of a liberal payment on condition of making a rapid journey, they applied all their strength to the oars. Luckily, they were favored by the tide, and by a breeze blowing up stream, and very soon after getting under way they spread the sail of coarse matting and laid their oars at one side. The Dyaks along the coast are excellent sailors, but their boats are not built after the most approved models of naval architecture; under the best circumstances, they rarely make more than six miles an hour, and the most of them are satisfied with three or four. It took about seven hours of rowing and sailing for our friends to reach the village; but the time passed pleasantly, as there was an abundance of things of interest on the shore, and each bend of the stream revealed something new. The forest was dense, and contained several varieties of trees they had not yet seen, and there was an apparent abundance of animal and insect life. Every few minutes the boys would catch sight of a bright-winged bird or a gaudy butterfly, and they managed to secure several specimens of the latter.

While they were halted for a few moments under a tree that overhung the water, Fred's attention was attracted by a butterfly that fluttered among the leaves for a moment, and then seemed to disappear like the harlequin in a play. While he was looking for it there came another and then another, and each of them in turn vanished like the first. Frank was as much excited as Fred over the strange phenomenon, and asked the Doctor what could have become of the butterflies, as he was certain they had not flown away, and he could not see them among the leaves.

"Look closely at the leaves," said the Doctor, "and perhaps you will find them."

"I've looked at every leaf," Fred answered; "but there is no butterfly to be seen."

"I've found one," said Frank, as he took what appeared to be a leaf between his thumb and forefinger.

Sure enough, he had secured his prize, and then he pointed to another, which Fred immediately captured. Then the Doctor explained that they had found the famous Leaf Butterfly of Borneo, that has the peculiarity of resembling almost to perfection a dead leaf of the tree he inhabits. "You observe," said he, "that his two sets of wings have a dark line running along them from point to point that exactly resembles the midrib of a leaf, and there are lines running out from this centre that correspond to its veins. When the wings are folded, the lower end of them imitates the stem, and touches the twig when the butterfly is at rest; and their

upper extremity is pointed in exact imitation of the point of the leaf. It is the habit of this butterfly to settle where there are several dead or partly withered leaves, and you must have very sharp eyes to distinguish him from one of them."

While the Doctor was talking the boys observed that their specimens were not exactly alike, and they called his attention to their discovery.

LEAF BUTTERFLY IN FLIGHT AND REPOSE.

The latter explained that it was difficult to find an exact resemblance in a dozen or more specimens, and they appeared to vary about as the leaves themselves were varied. It was a provision of nature for the protection and preservation of the butterfly, as he was enabled to escape many of his enemies by adapting his appearance to his retreat.

"I suppose," said one of the boys, "it is on the same principle that rabbits in our own country are brown in summer and white in winter. Many a bunny has saved himself from the hunters by changing from brown to white when the snow falls."

The two butterflies were carefully preserved along with those already captured, and as soon as the men were rested the boat moved on. Suddenly one of the Dyaks called out, "Mias! mias!" and pointed to the top of a tree where there was an animal of considerable size swinging from one limb to another, and apparently enjoying himself. Our friends looked, and the boys hardly needed the Doctor's explanation that "mias" is the Malay name of the famous orang-outang.

"What a splendid fellow he is," said Frank, "and what a pity we cannot capture him! He looks as though he was six feet high at least."

"The gentleman we met as we went down the coast of Sumatra told us that none had ever been caught more than four feet and two inches high," responded Fred, "but this one certainly appears as large as a full-grown man."

"Probably a measurement would tell a different story," Doctor Bronson remarked. "You know," he added, "that the largest fishes are the ones that are not caught, or get no farther than being hooked and lost."

By this time the mias had seen the boat and taken alarm for his safety; with one swing he dropped from the limb where he had been exercising, and disappeared in the forest. The boys wished to land and pursue him, but the Doctor told them it would not be of the least use to do so, as he could easily elude them. "He can travel faster," he continued, "among the limbs of the trees than you could possibly go on the ground; he swings from one tree to another, then runs to the farther side along the horizontal limbs, and is ready for another plunge. We will stick to the river, and lose no time in reaching our destination."

At a bend in the stream they saw some cattle grazing on a little island a short distance from a large tree that stood with its roots in the water. The Doctor said the island was in all probability a floating one that was attached to the bottom of the river by the long roots of the plants growing on it, and so flexible that it could rise and fall with the tide, or with the floods and droughts of the river. "These floating islands," he explained, "are by no means uncommon in tropical countries; there are many in the Amazon and its tributaries, and some of them are miles in extent. They are generally attached to the river-bottom, but occasionally they become separated and float away with the current, and instances are not unknown of cattle being swept out to sea on them."

A FLOATING ISLAND.

When they reached the village, whither they were bound, the boat was run to the bank, and the three travellers stepped on shore. The natives came down to meet them, and stood at a respectful distance till the orang-kaya, or head-man, made his appearance. He was dressed in gay-colored robes, and his head was wrapped with at least half a dozen handkerchiefs of silk and bandanna; Fred thought a dozen would not be too large a guess for the brass rings about his arms, and Frank thought they must be a heavy burden to wear all the time. The boys and men were similarly adorned, and Frank thought he had found a partial solution of the question, "What becomes of all the brass pins?" If they were used for making Dyak ornaments, the consumption must be enormous.

The chief led the way to the "head-house," or strangers' lodging, which is in every Dyak village, and the whole population followed to have a look at the visitors. The boys observed that the Dyaks were generally well formed, and had more intelligent expressions on their faces than the majority of the natives of Java or the Malay peninsula, and there was a playful manner among the younger portion that greatly amused them. The Doctor said the Dyak youths had a great number of games and sports that were quite unknown to the rest of the Malay race, and in this particular they resembled the Chinese and Japanese. They have spinning-tops similar to our own, and they have a game very much like

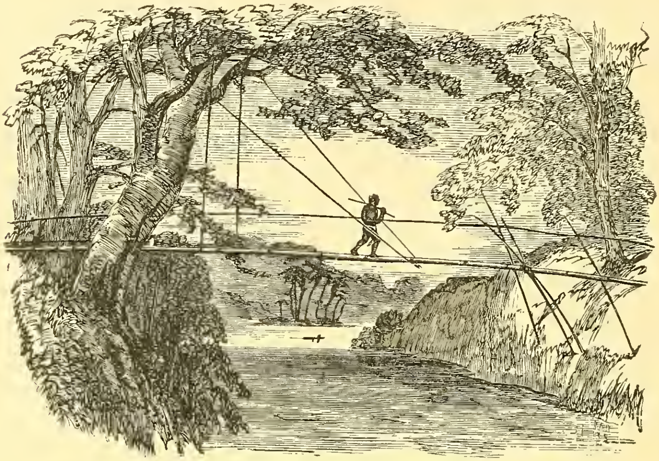
"base ball," in which they display a great deal of skill. Many of their sports are of an athletic character, and they are constantly exhibiting their ability to run, jump, throw the spear, toss heavy stones, and perform other feats that require more or less muscle. In this way their strength is developed, and they lay the foundation of the endurance for which they are celebrated.

The head house proved to be a circular building about thirty feet in diameter; it stood on posts, and had a platform running all around it, where persons could sit in the daytime or sleep at night. The head house is not only a lodging-place for strangers, but it serves as the council-chamber for any public business, and is the dormitory of many of the young men, especially in time of war, when they are liable to be summoned at short notice. Sometimes it is the largest building in a village, and the inhabitants take their turns in keeping it in order.

There was no one to act as interpreter between the strangers and the people of the village, and the conversation was conducted by signs. Where neither side could say anything, the talk was necessarily brief: the Doctor made the chief understand that he had brought nothing to sell, and did not wish to buy rice or anything else; and therefore he had no occasion to occupy their time. Then the chief ordered the strangers to be served with boiled rice and tea, and he also commanded some of the young men to exhibit their skill in the various Dyak games. An hour was spent in this sport, and then the conference came to an end; the display on the part of the Dyak youths consisted of the games already mentioned, together with pulling at a rope somewhat after the manner of the well-known "tug of war." The rope was made of bamboo shreds tightly twisted, and its rough surface furnished an excellent hold for the hands of the contestants.

When the sports were over, the Doctor and the boys took a stroll among the rice-fields in the neighborhood of the village; and by the time it was ended the sun was setting. Near the village they crossed a bridge of bamboo, the first of the kind the boys had ever seen, and they examined it with a good deal of curiosity. A couple of the longest and strongest bamboos were thrown over the stream and bound together with thongs of bamboo-leaves twisted together, and a third bamboo served as a hand-rail. From an overhanging tree three or four smaller bamboos were attached to steady the bridge and keep it in place, and it was further upheld by bamboo poles fastened into the bank. The Doctor said there were hundreds of these bridges in Borneo, especially among the mountains; and though they were liable to tremble under the feet

of those who crossed them, they were quite secure. The Dyaks find the bamboo no less useful than do the inhabitants of other Eastern countries,



BRIDGE OF BAMBOO IN BORNEO.

and it would be a serious calamity to them if they were suddenly deprived of it.

They slept in the head house at night, and were off by dawn on their return to meet the *Osprey*. The Doctor told the boys that if they had had time they would have visited the diamond-fields of the upper Sarawak, where some very fine stones are occasionally secured. The diamond washings are mostly conducted by Chinese, but they are not said to be very profitable; now and then a rich deposit is found, but for the most part the fields on the Sarawak do not more than pay the expense of working them. In other parts of Borneo they are richer, and some very large diamonds have been discovered.

While descending the river, the Doctor called attention to a climbing plant that completely covered a tree overhanging the water. "It belongs," said he, "to the family of the pitcher-plants, but is not a very good specimen."

One of the boys asked what the pitcher-plant was.

"Its name indicates its character," replied the Doctor. "It has a cup, or pitcher, hanging down very much as a pitcher does when you hold it by the handle; some of the plants are literally covered with these pitchers, and they will generally be found full of water, even when there has been no rain for weeks. The finest of them are in the mountain

regions of Borneo; there is one known as the Nepenthes Rajah that will hold two quarts of water in its pitcher, and there is another nearly as large. They are of great advantage to travellers, and many a man has been saved from suffering, and perhaps death, by means of this plant."

As the men wanted to rest a short time, the boat was brought to shore

Neoceramhyx æneas. Cladognathus tarandus.
Diurus furcellatus. Ectatorhinus Wallacei.
Megacriodes Saundersii. Cyriopalpus Wallacei.

REMARKABLE BEETLES IN BORNEO.

near the tree that supported the wonderful plant, and thus the boys had an opportunity to examine it. While they were looking at it they discovered some curious beetles on the trunk of the tree, and succeeded in capturing several of them; some of their prizes had long antennæ, or feelers, and one had a pair of claws like a lobster, while all of them were beautifully marked or colored. Their capture led to a talk about the insect life of Borneo, and the boys learned that the country was particularly rich in beetles, butterflies, and similar products: more than two thousand varieties of beetles alone had been found there, with a proportionate number of butterflies.

"And if you are not satisfied with such small game," said the Doctor, "you can have the elephant—who is identical with the elephant of India —and at least ten varieties of monkeys. Then there is a species of panther; there are deer and wild cattle; and if you like the sport of hunting wild pigs, you can be accommodated. Bats and squirrels abound, and the name of the birds of Borneo is legion; there are crocodiles in the rivers, great pythons in the forests, and a liberal variety of smaller snakes—enough to fill the wants of the most fastidious."

"If that's the case," said Frank, "I don't believe I care to stay very long in Borneo. I don't mind ordinary hunting; in fact, I should like it; but when it comes to a battle with a python I would rather be left out."

Fred was of the same opinion, and thought that anybody could have his fill of hunting among the elephants and wild pigs. The Doctor said the pursuit of these latter animals was much more difficult in Borneo than in India, owing to the comparatively small part of the country that had been cleared. He added that it was very hard to keep up with a pig in the forest, as he can dart under the trees and keep out of the way while the hunter is toiling on, and perhaps finds the bushes so dense that he must cut away the vines and creeping plants before he can proceed.

Then the conversation changed, and for the rest of the way the Doctor interested the boys with the romantic story of an Englishman who became an Eastern prince. It was about as follows:

"Borneo has three distinct governments. First there is the Kingdom of Borneo, ruled over by a king, or sultan; it embraces the north-western and central part of the island, and is divided into several subordinate principalities. Then there are the Dutch possessions on the east, south, and west coasts, comprising three provinces under the control of the Dutch Governor of Java; and, lastly, there is the independent State of Sarawak, with an English ruler.

"It is concerning this State and its ruler that we are about to talk.

In the first quarter of this century there was an Englishman, named James Brooke, in the service of the East India Company; he left it about 1830, and made a voyage to China, and on his way there he visited Borneo. There he saw how badly the natives were treated by the Malay pirates, who devastated the coast and carried the people away to sell as slaves, after robbing them of all they possessed. He conceived the idea of forming a civilized government for the people, and with this object in view returned to England, where he spent several years in preparations; he bought a yacht out of the royal squadron, and obtained the same privileges for her as for a regular man-of-war. He came here with his yacht in 1838, and attacked the pirates wherever he could find them; their primitive boats and arms were no match for him, and in a year or two he had freed this part of the coast from their depredations.

"In return for his assistance, the prince, or rajah of Sarawak, made Brooke his successor, with the full approval of the Sultan of Borneo, and gave him command of the army. English ships and men were sent out to assist him, and while they were attending to the pirates the new rajah went to work to teach the natives how to live like civilized people. He framed laws for them, established a regular government with courts of justice, built roads, developed trade, and in a good many ways made the natives feel that he was their friend."

"How did the English Government like this?" one of the boys asked. "Did they approve of one of their nation becoming an Eastern prince?"

"The Government was generally favorable to it, as it was in the interest of peace," the Doctor answered, "and besides, it was extending the power of the British Crown. But there was considerable opposition to it among some of the English, and in 1847 Brooke was obliged to go to England to defend himself against the attacks upon his policy. He succeeded in establishing his claims to consideration, and received the honor of knighthood, so that he was afterward called Sir James Brooke, though he is better known as Rajah Brooke. A staff of officers under pay of the British Government was sent to assist him, and the State of Sarawak was regarded as a British dependency, though it was and is nominally independent, and can do as it pleases.

"Under the rule of Rajah Brooke the country prospered, and has continued to prosper. Sir James died in 1868, after establishing his nephew as his successor, and the latter rules here now under his uncle's old title. The nephew is quite as philanthropic as the uncle was, and has proved himself an intelligent ruler; the trade of the country increases every year by the development of its resources, and from all we

can learn or observe, the inhabitants have reason to be grateful to the Englishmen who came among them and taught them the arts of peace instead of war."

"What is the trade of Sarawak?" said Fred, "and how is it carried on?"

"It is principally in the products of the forests and of the mines," replied the Doctor, "and the latter are especially valuable. Antimony is abundant, and it is from Borneo that England derives her principal supply of that metal. There are numerous deposits of coal, and large quantities are taken out every year and sent to the markets of the Eastern seas. Those immense piles of coal that we saw at Singapore probably came from Borneo, and the business of that one port alone is enough to make the fortune of a small State like Sarawak. The forests are full of valuable timber, such as ebony, iron-wood, sandal-wood, and teak; and there is a considerable product of gutta-percha, India-rubber, and camphor. The export trade is said to amount to more than $3,000,000 annually; the most of it goes to Singapore, and from that point the goods are reshipped to Europe."

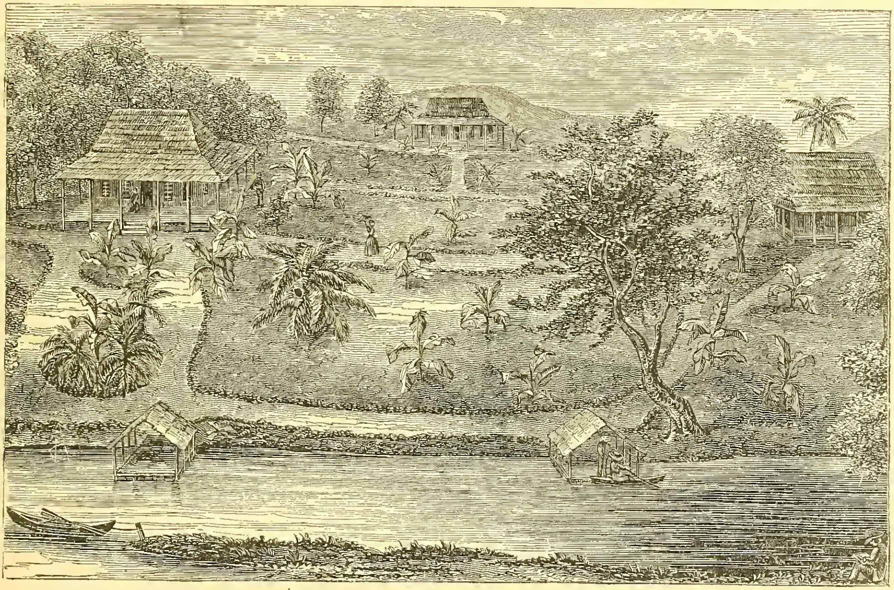
Frank wished to know the extent of the State, and its population.

"The dominions of Rajah Brooke," said the Doctor, "extend about 300 miles along the coast, and inland, at the farthest point, about 100 miles. The population is said to be 300,000, and is composed of Dyaks, Malays, and Chinese. The only hostility ever shown to the first Rajah Brooke was by the Chinese at the time of the outbreak of the war between England and China, in 1857. Two thousand Chinese attacked his house, and he was compelled to swim across the river to save his life. The insurrection lasted for some weeks, but was finally suppressed with the assistance of English troops sent from Singapore.

"The religion of the people is principally Mohammedan, but there is perfect religious freedom through the whole province. There are several Protestant missionary stations in the interior, some under English, and others under American management. One of the latter was the scene of the labors of Rev. Mr. Thomson, an American missionary, who spent many years in Borneo; he formed a vocabulary of the Dyak language, and did much for the education of the people.

"An enterprising American, Mr. J. W. Torrey, of Boston, endeavored to follow the example of Rajah Brooke and make a colony of his countrymen, and establish an independent State in another part of Borneo; he obtained the title of Rajah of Ambong and Maroodu, with a grant of territory, from the Sultan of Borneo, and quite likely would have suc-

ceeded in his plans if he had possessed the same wealth as James Brooke, and been properly supported by his Government. The latter always had all the capital he wished, together with the support of the British Government, while Torrey had no fortune with which to purchase ships and employ the needed men and officers; and, furthermore, the President and Congress of the United States gave him no assistance. He still holds his title and his claims to territory, and he occasionally visits Borneo to make sure of their continuance; but up to the present time he has not established his government, and every year makes it less and less probable



AMERICAN MISSIONARY STATION IN BORNEO.

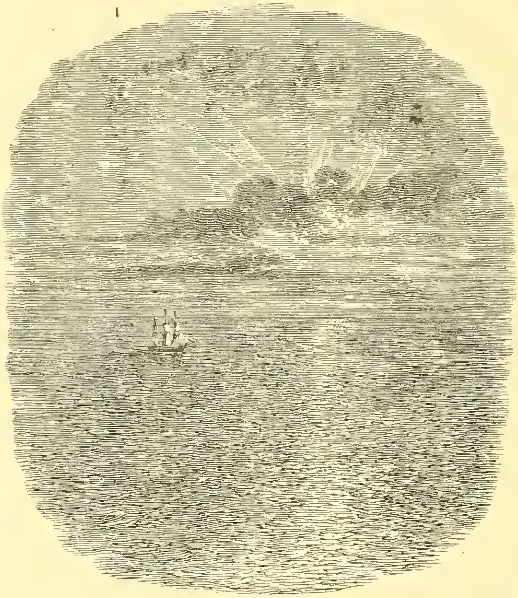
that he will succeed in his hopes of founding an American province in the Malay Archipelago."

"There's the *Osprey* with steam up," exclaimed Fred, as a bend in the river brought them in sight of their ship.

"Yes, there she is," echoed Frank; "we're in time to keep our promise to the captain, and she's ready to sail as soon as we're on board."

The men paddled vigorously, and in a few minutes our friends were climbing the gangway-ladder. As their feet touched the deck, the captain ordered the anchor lifted, and in a short time they were steaming down the river, and were at sea before the setting of the sun. It happen-

ed that the spectacle of sunset on that occasion was particularly beautiful; the light seemed to flash in all directions from behind the clouds, and formed a pathway of fire along the gently undulating waters. The boys agreed that it was the most brilliant sunset they had hitherto seen at sea, and they lingered on deck till the last ray of light had disappeared, and the stars came out in their places in the sky



SUNSET IN THE CHINA SEA.

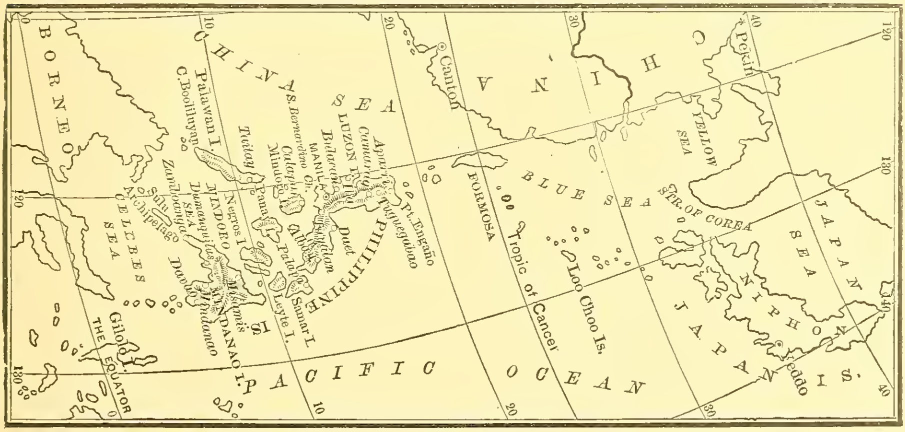
CHAPTER III.

ARRIVAL AT MANILLA.—FIRST DAY ON SHORE.

THE *Osprey* steamed on the next day and the next, and on the third morning after leaving Sarawak the boys found themselves entering a broad bay, which the captain told them was the Bay of Manilla, in the Philippine Islands.

"It's large enough to hold all the ships in the world," Frank remarked, as he looked around him, and gradually took in the extent of the sheet of water.

"Yes," said Fred, "provided they did not object to a little crowding here and there. It seems to me larger than the Bay of Yeddo, in Japan."



MAP OF THE PHILIPPINE ISLANDS.

"You are quite right," chimes in the Doctor. "It is larger than the Bay of Yeddo, and Frank is not much out of the way when he thinks all the ships of the world could assemble here at once. The Bay of Manilla is 120 marine miles in circumference, and its waters wash the shores of five provinces. There is good anchorage in the greater part of it, but owing to its enormous size, it is less secure than a smaller bay would be."

The captain of the *Osprey* was standing near them during this conversation, and nodded assent to the Doctor's statement. "Manilla has no harbor, properly speaking," he remarked, "and the only place for ships, till they enter the river, is in the open roadstead. During the north-east

SCENE ON MANILLA BAY.

monsoon we are all right, and can drop our anchors a mile or so in front of the city the same as we do at Batavia; but when the south-west monsoon is blowing, and in all the time of the change of monsoons, the roadstead is dangerous. Then we go to Cavite, a naval port seven miles down the coast, and all our cargo must be landed there or brought to Manilla in lighters. No ship of more than 400 tons can enter the river at Manilla safely, as there is not sufficient water on the bar. We shall anchor in front of the town, and you will go on shore in a small boat."

The entire shores of the bay were not distinctly visible at the same moment, owing to the great distance across, but what there was to be seen was quite picturesque. In the background was a range of mountains, in front of them was a table-land, and in the immediate foreground lay a stretch of low coast covered with tropical vegetation, among which the bamboo and the palm were prominent. As they approached near the land our friends could see that it was intersected by numerous canals, and the captain told them that in the rainy season these canals overflowed their banks, and converted all the low-land into a vast lake. When the

water recedes, the moist land is planted with rice, and in a few days what was before a wide stretch of water becomes a most luxuriant field. The rice product of the Philippines is very large, and the soil seems admirably adapted to the culture of the article that forms the daily food of more than half the human race.

There were but few ships at anchor in the roadstead when the *Osprey* came to a halt at the spot her captain had designated, and the signs of great business activity were altogether wanting. The Doctor informed his young companions that the trade of Manilla was less than that of Batavia or Singapore, and hence the smaller number of ships in port. The Philippine Islands belong to Spain, but there is not a great deal of commerce between the two countries, since neither produces much that the other wants. Down to a very recent date there was a heavy protective duty that was intended to favor Spanish ships to the detriment of others, but somehow, while it kept off the vessels of other nationalities, it did not bring as many Spanish ones as was expected.

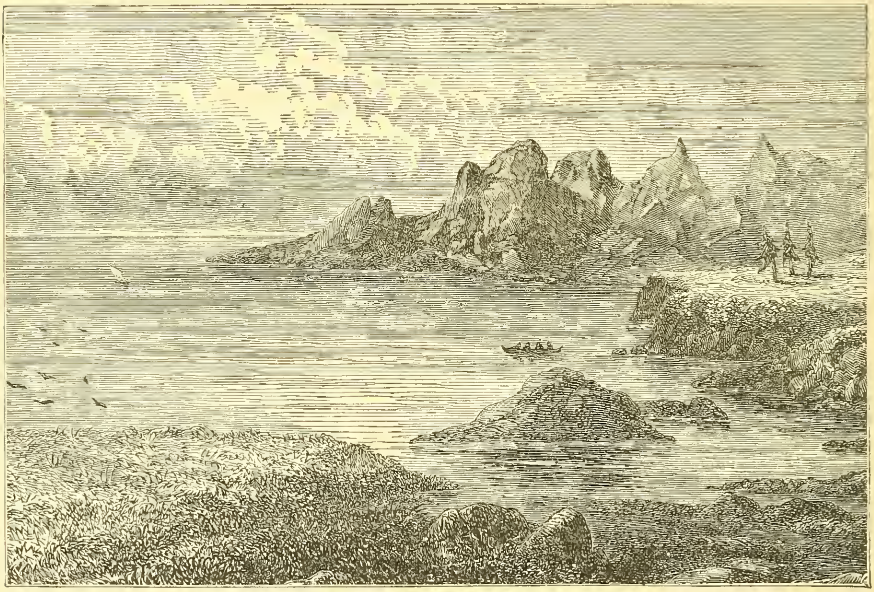
The customs duties were formerly seven per cent. for merchandise imported in Spanish ships, and double that figure if the ships were foreign. Then they had a system of levying tonnage dues on foreign ships, in addition to the duties on the cargo; a ship in ballast paid a certain rate, while a cargo ship was taxed about double. If a ship in ballast landed the smallest parcel of any kind whatever, she was immediately taxed at the higher rate; and it was said that the officials used sometimes to bribe a sailor on board a ship to carry a small bundle on shore, so that they could have the pretext of levying the high charge. The consequence was that foreign ships avoided Manilla as much as possible, and only went there when specially chartered. In 1869 a decree was issued making a uniform duty on all goods, no matter under what flag they were imported, abolishing all export duties, and doing away with the objectionable features of the port charges.

Hardly was the anchor down before a boat from the custom-house came along-side, and the officials mounted to the deck. A little time was required to take the declarations of the strangers relative to the objects of their visit, and the time they intended to remain; the Spanish in the Philippines have pretty nearly the same regulations concerning strangers as the Dutch in Java, and for a similar object — to keep the country for themselves; and if a visitor does not like the restrictions thrown around him, he is at full liberty to leave.

When the formalities were over, our friends entered a boat and were rowed ashore. Manilla stands on both banks of the river Pasig, but the

larger portion is on the southern side. There is a breakwater at the mouth of the river, to prevent injury from the waves that sometimes sweep in during the change of the monsoons. On more than one occasion the water has flooded all the lower parts of the city; but at the time of which we are speaking the weather was at its best, and the breakwater was more ornamental than useful.

The boys were amused at the appearance of the houses along the banks; they had expected to see broad windows that would give as much ventilation as possible, and also allow strangers to have a peep at the internal arrangements without taking the trouble to enter. But they



COAST SCENE IN THE PHILIPPINE ISLANDS.

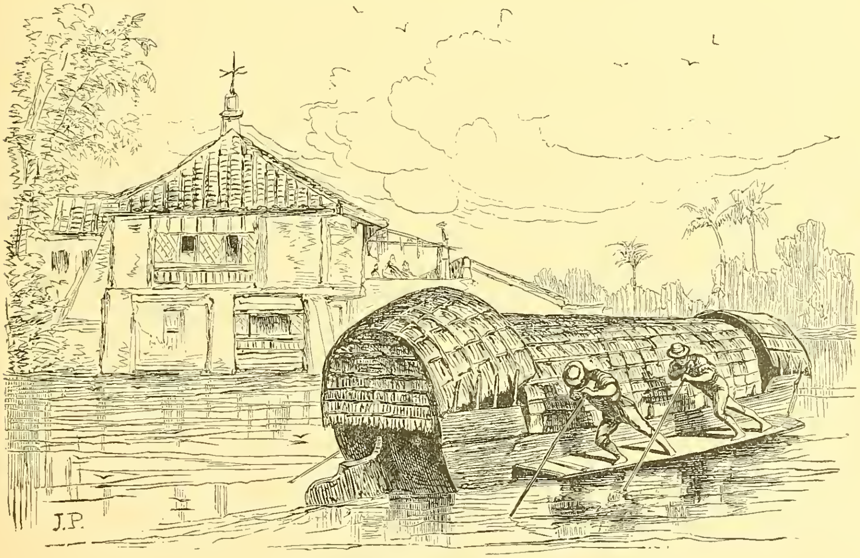
found, on the contrary, that the windows were generally narrow, and few in number, and the inhabitants consoled themselves for the lack of ventilation by spending a goodly portion of their time on the balcony. The roofs were covered with red tiles after the Spanish manner, and the Doctor remarked that the Spaniards in the Philippines, like the Dutch in Java and the English in India, had brought many of their home customs with them when settling in the eastern half of the world.

They passed a barge laden with merchandise from one of the ships at anchor in the roadstead; it was propelled by men with long poles, which they fixed in the bottom of the river after the manner of the "set-

ting poles" formerly in use on some of the streams of America. A broad plank was attached to each side of the barge just above the water-line, and on this plank two men walked as they pushed against the firmly fixed poles. The barge was a clumsy affair, with a roof of pandanus leaves, woven together and arranged in sections, so that it could be lifted off to receive cargo. There was a broad rudder at the stern of the barge, and the steersman stood under the mat roof, so that he was quite sheltered from the rays of the tropical sun.

There were many native craft in the river, and a few vessels of foreign rig; but all the latter were of small tonnage, and evidently employed in coast service among the islands. The boat with the three travellers pushed on to the custom-house, where the baggage was inspected, and, on being found to contain nothing liable to duty, was allowed to pass. Then the strangers were at liberty to seek a hotel, and they lost no time in doing so.

There are not many visitors in Manilla, and consequently the hotel accommodations are limited; there are only two establishments worthy the name, and even these are far from equal to the pretentious hostelries of



BARGE AND HOUSE ON THE PASIG.

Madrid and Seville. Frank remarked that they would be quite content as long as they had a roof to shelter them, and enough to eat; Fred pointed to a large hole above his bed where several tiles had been re-

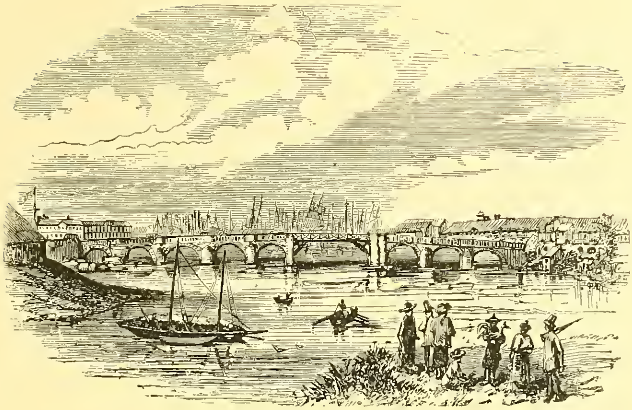
moved, and suggested that the shelter was not very promising at the outset. The attention of the hotel-keeper was called to the opening, and he quietly remarked that the rainy season was over, and the hole would do no harm.

The hotel was not in Manilla proper, but in the suburb of Bidondo, where most of the foreigners reside, and where the bulk of the commerce is conducted. It is on the northern bank of the Pasig, and those who live there are accustomed to regard themselves as of more consequence than the dwellers on the opposite side of the stream. Back of Bidondo there are some pleasant villages and private residences, and several of the latter are fitted up with a considerable attempt at luxury. The boys thought the houses were not as comfortable as in Singapore and Batavia, and the Doctor told them that Manilla was a more expensive place to live in than either of the cities they had named, and consequently the same amount of money would procure fewer necessaries or luxuries of life. Those who had only fixed salaries to rely upon frequently found it difficult to make both ends meet; and even the merchants were compelled to practise more economy than they desired. The houses were generally of two stories, but the lower one was rarely inhabited, on account of the dampness that rose constantly from the ground. It was generally used as a stable, and consequently the occupants of the upper floor had the advantage of a variety of smells without extra charge.

Doctor Bronson had a letter to a gentleman residing in Manilla, and as soon as the party was settled at the hotel, he set out to deliver it. During his absence the boys took a stroll in the neighborhood, and crossed the bridge that leads to the city proper, on the southern bank of the Pasig.

There was formerly a stone bridge of ten arches that spanned the river; it was erected more than two hundred years ago, and was regarded with pride by the inhabitants, but the earthquake of 1863 destroyed it. An iron suspension-bridge was constructed in its place, and the most of the piers of the old structure were removed in order to facilitate navigation.

Frank and Fred found many things that were new to them in their walk. They had not gone a dozen yards before they met a man whose appearance raised a smile on their faces, but they carefully concealed it till he had passed. He was dressed in what he doubtless regarded as the perfection of wardrobe, and swung a light cane with all the dignity of the most accomplished promenader of Broadway or Fifth Avenue. His trousers were of a checked pattern, and his feet—bare of stockings—were thrust into patent-leather shoes. The rest of his costume consisted



OLD BRIDGE AT MANILLA.

of a shirt, a stove-pipe hat, an eye-glass, and a cigar; and the novel feature of the dress was that the shirt was worn outside the trousers, and had no necktie. The boys at first thought they had encountered some one who did not know how to clothe himself properly; but they soon ascertained that it is the custom in Manilla to wear the shirt outside the trousers, and the man they met was a dandy who had gotten himself up "regardless of expense."

A few steps farther on they met a different sort of inhabitant—a native girl with a jar of water on her head, and bearing a large leaf in one hand. She was tall and well-formed, and her dress was very simple; it consisted of a light chemise, and a skirt that showed her bare feet as she walked gracefully along, and paused to take a glance at the strangers. Her thick hair was braided into a heavy tress, which formed an excellent cushion for the jar to rest upon; and her complexion was so light that Frank could hardly believe she was not a Spaniard, rather than a native of the islands. Afterward they met many more of the same type; and as they also encountered Spaniards and half-castes, they were not long in learning how to distinguish the various inhabitants of Manilla.

A MANILLA DANDY.

On their return to the hotel, they found

the Doctor was there before them, as the gentleman he sought was not at his office, and therefore his visit had been very brief. They sat down to lunch, and just as they finished it there was a call for the Doctor. It proved to be from Mr. Segovia, a partner of the gentleman to whom he brought the letter, and he kindly offered to show any courtesy to the strangers in his power.

"I am afraid," said he, "that you will find Manilla a dull place. We have no theatre at present, and the newspapers contain nothing you would care to read; the only relief we have to the prevailing monotony is the religious processions, and I believe there will be none of these for two or three weeks. The amusement of the people is in cock-fighting, a vice that was introduced by the Spaniards, and has been adopted by every native that can afford to keep a bird. Some of them never go out-of-doors without their favorite birds in their arms; and there is hardly an hour of the day or night when there is not a fight going on in a dozen places in Manilla."

A NATIVE GIRL IN MANILLA.

After some further talk about the city and what it contained, it was agreed that the gentleman would call late in the afternoon with a carriage to take the Doctor and his young companions to the evening promenade. The arrangement concluded, the gentleman retired, and the party sat down on the veranda to pass away the hot hours of the middle of the day and talk about the sights of the city.

The boys brought out their note-books to record what they had seen in their morning's walk; and when they had finished, they had a conversation with the Doctor relative to the Philippine Islands and their history since the time the Spaniards went there. They were astonished to find that the group comprised more than 1200 islands; but their sur-

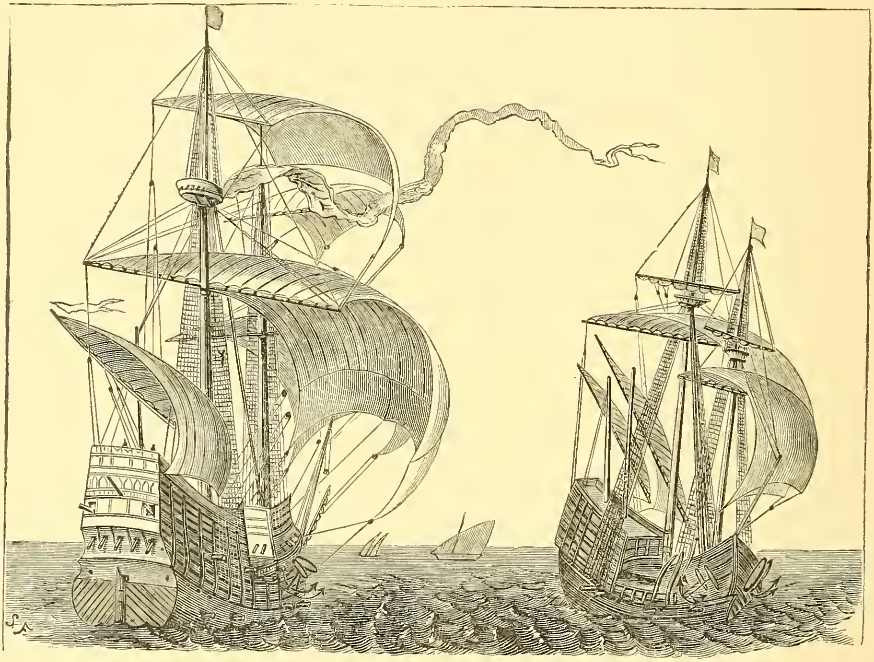
NATIVE AMUSEMENTS.

prise was somewhat diminished when Doctor Bronson told them that only twenty of the whole number were of any consequence, the rest being principally rocky islets. The entire group was said to have an area of about 120,000 square miles, and a population of from five to six millions. Some of the islands are independent, but the largest and most important belong to Spain, and have so belonged for more than three hundred years.

"The group was discovered," said the Doctor, "in 1521 by the celebrated navigator Magellan, and occupied by the Spaniards about thirty years later. There have never been more than 10,000 Spaniards here at any one time, and probably there are not to-day over 5000 or 6000 persons of pure Spanish blood in all this region. For a long time the most of the trade of the Philippines was with Mexico, and once a year a ship or galleon was sent from Manilla to Acapulco with a load of silks and other valuable products of the East, which were sold for more than twice their cost. The last of these voyages was in 1811, owing to a royal decree that broke up the monopoly held by the rulers of the islands. Sometimes two or more galleons sailed together; the voyage across the Pacific Ocean was frequently more than one hundred days in length, and instances have been known of one hundred and fifty days being taken between Manilla and Acapulco. Now a sailing-ship that would not make the voyage in forty-five or fifty days would be considered slow, and a steamer would accomplish it in twenty-five."

One of the boys wished to know what the galleons brought back from Mexico in return for the silks they carried there.

"The greater part of their cargoes," was the reply, "was in silver dollars, and it is from this course of trade that we now find the Mexican dollar in such general circulation in the Far East. Then they brought quicksilver, which was sold in China at a large profit; and they brought cochineal and other dye-stuffs. Sometimes a single cargo would sell for $2,000,000, but this was unusual; the ordinary value of a cargo was



SPANISH GALLEONS ON THEIR WAY OVER THE PACIFIC.

about $500,000 at starting, and the returns were double that amount. There was very little produce of the islands in these cargoes, but mainly the silks and other Chinese goods which had been bought by the merchants of Manilla with gold-dust, sapan-wood, skins, and edible birds'-nests, together with the silver dollars, of which the Chinese are very fond.

"The Spaniards kept a monopoly of their trade down to the beginning of the present century. All other Europeans were carefully excluded from the islands until 1809, when an English house was allowed

to establish itself here, and this concession was followed in 1814 by permission for all foreigners to come here under certain restrictions. The Spaniards always reserve the right to send away any foreigner who makes himself obnoxious, but the occasions when they do so are very rare. Even at the present day it is difficult for a foreigner to obtain permission to visit the interior of the island; and as late as twenty years ago there was a royal order that forbade their going there under any pretext whatever."

"Can we go there?" Fred asked. "I should so much like to see the interior of the island we are on."

"We have not time," the Doctor answered, "to go through the whole of the island, even if we could obtain permission; but I dare say we can make some short excursions, so that we will not be entirely ignorant of the Philippines when we go away."

After some further talk about the country they were in, the party separated, in order to follow the custom of Manilla, and devote an hour or two to sleep before going on their evening drive.

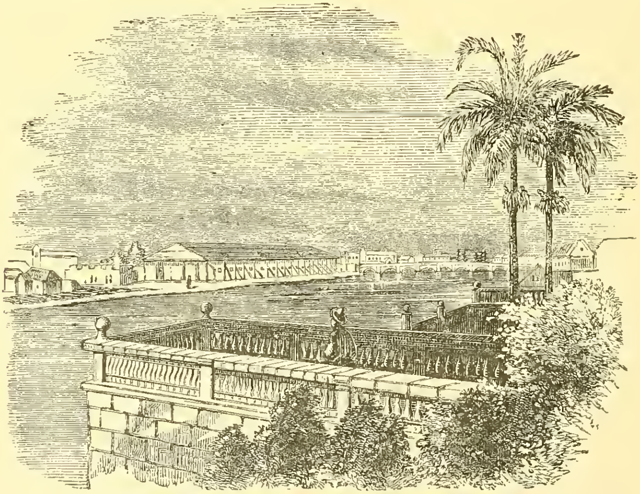
MOUTH OF THE BAY OF MANILLA.

CHAPTER IV.

AN EVENING PROMENADE.—VILLAGE LIFE NEAR MANILLA.

MR. SEGOVIA called at the hotel according to agreement, and found the party ready to start on the evening drive. The boys enjoyed it greatly, if we are to judge by the following account which they wrote after their return:

"We have found Manilla very interesting, and have seen so much in our ride, that we hardly know where to begin. The streets are wide and straight, and they have solid sidewalks of stone that remind you of some



VIEW OF MANILLA FROM THE BINONDO SUBURB.

of those in New York or Boston. There is a large square or plaza, with a statue of one of the Spanish kings in the centre, and a good many people were gathered there as we drove along one side and stopped a few moments to look at the statue. The part of Manilla on the southern bank of the river is the military city, and contains the cathedral and other churches, together with the government barracks, the custom-house, and

several other public buildings; the Binondo suburb on the north is not so well off, and perhaps it is for this reason that the streets are not so well paved, and not as regular and wide. But there are more people on the north bank than on the south, and the most of the foreigners live there and try to enjoy themselves.

"We went along at a good speed in an open carriage drawn by a pair of lively young horses that were said to have been newly imported from Australia; they will lose their spirit after a while in this hot climate, and a year or two from now it will not be easy to get them to go faster than a slow trot. Everybody takes a drive who can afford it, besides a good many who cannot stand the expense. Their doing so has caused a curious custom to be adopted by the drivers; whenever you hire a cab in the streets, you must pay for it in advance, or the driver will not go with you. The drivers have been cheated so much that they have become suspicious and won't trust anybody, and certainly they are not to be blamed. Mr. Segovia says that a great many of the Spaniards who come here are without money or character, and think they have a right to swindle any one who will trust them. The merchants are obliged to be very cautious, but in spite of all their care they lose a good deal by these adventurers.

"Every little while in our drive we came to a canal, and a portion of the way we followed the banks of the Pasig. The canals are small, and only scantily filled with half-stagnant water, and the smells that rise from them are anything but nice. Dead dogs and cats were floating on the water, but the men rowing the numerous boats did not seem to mind them. You can go all around the Binondo suburb in a boat, and some day we mean to do so, if we can stand the odors.

"As we passed near the river we saw a funny sight—a raft of cocoanuts, with a native on it, floating down the stream. The nuts are tied together with pieces of the husk, which are partially detached with a knife, and the whole mass is so buoyant that a hundred of them attached to each other will support a man. A native starts with a raft of nuts from somewhere up the river, and floats down to market. He goes to sleep there, and lets the current carry him along; and if his conveyance runs on shore, he wakes up, gives it a push out into the stream, and goes to sleep again. It is an easy and cheap mode of travelling, and when he has sold his raft, he walks home, or works his passage on a boat bound in his direction.

"Mr. Segovia pointed out the various classes of people in Manilla, and it did not take us long to be able to distinguish them from one another. He divides them into Spaniards, Creoles, Tagals, Chinese, and Mestizoes; the Tagals are the natives, the Creoles are children of Spanish fathers and

native mothers, and the Mestizoes are of Chinese parentage on one side. and native on the other. The word Mestizoes is generally abbreviated to "Metis," as our friend explained to us, and we will call them so in this letter.

A CREOLE IN EUROPEAN DRESS.

"The first pair he pointed out were Spanish Metis, or Creoles, and they were dressed in their best clothes for an evening walk. The man wore a pair of gay-colored trousers that looked as though they were made of calico, and he had above them a frock like a shirt worn outside, of nearly the same material as the trousers. Then he had an umbrella and a tall hat, and his feet were in slippers instead of boots. The woman at his side was likewise in slippers that showed all of her feet except the toes; she had no bonnet on her head, but in its place she wore some flowers and a sort of wreath like a pad. There was a bright handkerchief around her neck, and her dress was of an equally gaudy color. These people appear to be very fond of lively colors and contrasts, if we may judge by the universal use they make of them.

SPANISH METIS.

"Close behind them was another couple that our friend said were Chinese Metis, or half-breeds. The costume of the man was not much unlike that of the other, but his trousers were not as gay, his frock was gathered in at the waist, and his shirt was white. The

woman was prettier than the other one, and the handkerchief she wore on her head was very becoming; it fell in graceful folds down to her shoulders, which were covered with a cape of thin muslin, held in place by a pin at the throat, and her dress was very pretty: it consisted of a skirt or native *sarong*, in which there was a good deal of red, and over the skirt there was a wide sash of rich Chinese silk in red and yellow stripes. It is wound around the waist in such a way that it holds the figure quite closely, and hangs below the knee. Her feet were in slippers, without stockings, and it does not seem to be the fashion for anybody to put on stockings in Manilla, or at least only among the foreigners.

CHINESE METIS.

"Frequently we saw people on horseback, and were told that many of them belonged to the wealthy class of the Spanish Metis. Their dress was much like that of the pedestrians, except that it was somewhat richer, and the woman wore a tall hat like that of the man; but as the equestrian costume for a lady in Europe or America is generally supposed to include a high chapeau, we suppose the head-covering for the fair rider in Manilla will not be considered out of fashion. They say that fashions change very little in Manilla from year to year, and milliners do not make fortunes. The Spanish ladies make some attempt to keep in style, but with all their efforts, they do not succeed very well. There is little chance for variety in a country where it is so hot that only the lightest garments can be worn with comfort.

"These Metis are in the same social position as the mulattoes of the United States—they will not associate with persons whose skins are darker than their own; and, on the other hand, the whites altogether despise and look down upon them. But they are the richest and most enterprising of the population, and it is said that a Chinese Meti can generally beat a genuine Chinese at a trade, no matter whether he is buying or selling. One of the wealthiest native merchants is the son of

a Chinese trader who married a Tagal wife, and he has made his entire fortune by his own industry and shrewdness.

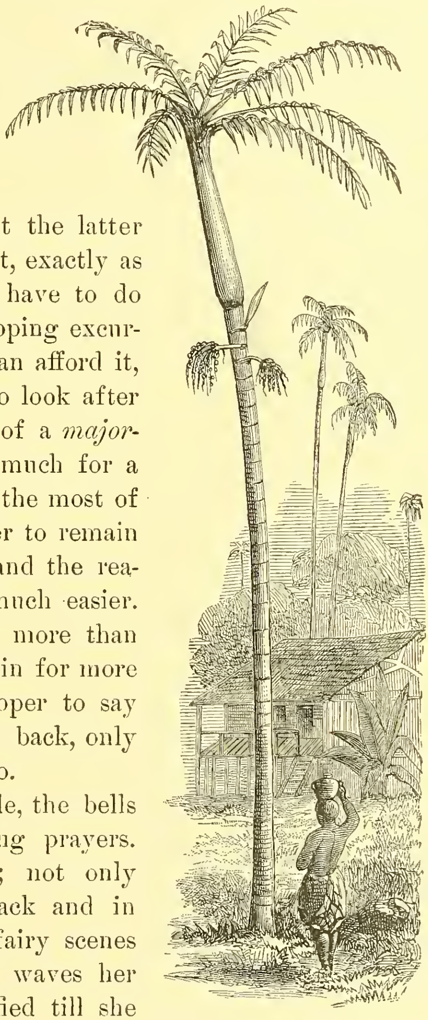
"There is this difference between the Spaniards in the Philippines and the Dutch in Java: that the former have instructed the natives in their religion, while the latter have not tried to give the Javanese any religious instruction whatever. All through the Philippines the natives have been converted to the Catholic Church, and in many districts the only white inhabitants are the priests. They instruct the natives not only in religion, but in agriculture and manufactures; but it often hap-

SPANISH METIS OF THE WEALTHY CLASS.

pens that, as they have no practical knowledge of the arts they are teaching, their instruction does not amount to much.

"When we reached the promenade, we got out of the carriage for a stroll. Everybody seemed to be there, as it is the fashion to go to the promenade whenever the band plays, and it happened to be one of the musical evenings. All the Spanish officials were in uniform, and the gentlemen who did not happen to hold office wore their black coats. Most of the other foreigners followed their example, though there were some that did not. The fashion promises to die out; but it will be some time before it does, as the Spanish are very conservative.

"The ladies were out in goodly numbers, and Doctor Bronson said many of them were quite pretty. Most of them wore veils after the Spanish fashion, and they talked and laughed with the gentlemen, just as they might do in Madrid or any other Spanish city. The ladies in Manilla do not appear to spend as much time in-doors as the Dutch ladies do in Java, for they go a good deal among the shops, and like to turn over silks and other things by the hour without buying anything. They give the Chinese salesmen ever so much trouble, but the latter have to smile, and pretend to like it, exactly as the salesmen in a New York store have to do when the American ladies go on shopping excursions. In every house where they can afford it, they have a small army of servants to look after them; and as the place is in charge of a *major-domo*, or house-keeper, there is not much for a lady to look after. Mr. Segovia says the most of the ladies who come to Manilla prefer to remain there rather than go back to Spain, and the reason probably is that they find life much easier. It is the same with the men, as not more than one out of ten ever goes home to Spain for more than a short visit; though it is proper to say many of them would be glad to go back, only they never have the means of doing so.



PALM-TREE IN THE BOTANICAL GARDEN.

"While we were at the promenade, the bells suddenly rung the hour for evening prayers. Everybody stopped on the instant; not only those on foot, but those on horseback and in carriages. It was like one of the fairy scenes we read about, where the goddess waves her wand, and everybody becomes petrified till she waves it again, and restores them to life. The gentlemen raised their hats, and the ladies bowed their heads, and for a few moments the time was devoted to universal prayer. Then the bells stopped, and the movement of horses, carriages, and pedestrians was resumed; the conversation became as

lively as ever, and we had to rub our eyes to make sure we had not been dreaming.

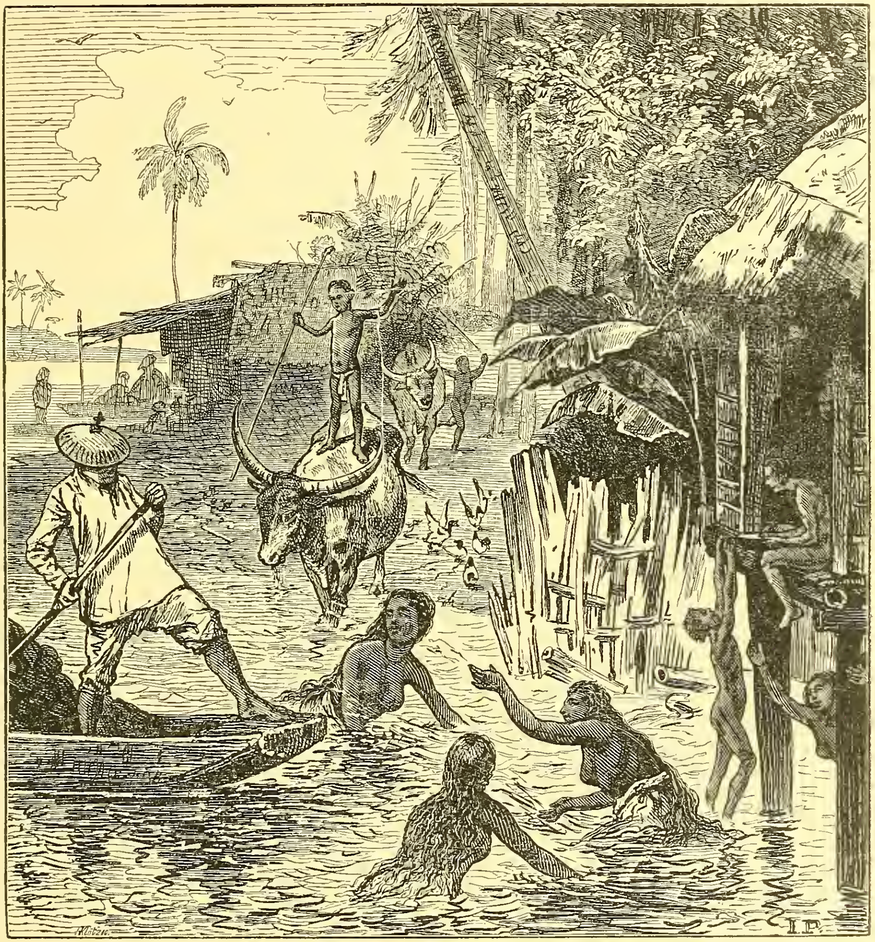
"There is a botanical garden near the promenade, but it is not very well kept; it reminded us of the gardens at Singapore only by contrast, as it was overgrown with weeds, and the most of the plants had died or were dying. A few palm-trees remain, and some of them are quite interesting. We are told that botanical gardens in all the Spanish possessions do not appear to flourish; and if this one is to be taken as a sample, we can readily accept the statement.

"It was late in the evening when we returned from our drive; the people were thinning out somewhat at the promenade, but the most of them did not appear in a hurry to get home. Though they go late to bed, they rise early in Manilla, at least those who have any business; and they make up for the short hours of night by sleeping in the middle of the day. In the best of the houses there are bath-rooms, with bamboo windows in fine lattice-work, and some of the people manage to keep cool by bathing several times a day. The water for supplying the city comes from the Pasig River, several miles above Manilla, but the means of distributing it are very primitive."

The second morning of their stay in Manilla our young friends were out in good season, and off on an excursion around the city. Their ride took them along the river, but further up stream than they had previously been; they continued it beyond the city to a little village, where the natives were having so jolly a time in the water that the boys proposed stopping to look at them. The Doctor consented, and so they left their carriage and sat down on the bank.

Three or four girls were in the shallow water near the edge of the stream, and they amused themselves by splashing a Chinese boatman who was urging his craft among them. Evidently he did not like the sport, as he was threatening to strike them with his oar, of which they did not seem to have much fear. A boy who had never in all probability seen a circus was balancing himself on the back of a wide-horned ox, and urging the beast to join the bathing-party; the ox was not at all disinclined to the bath, and the Doctor told the boys that the oxen, or buffaloes, of the Philippines cannot exist without frequent bathing. They like to lie all day in the water, and, if it is not attainable, they will readily accept mud as a substitute. Consequently, they are not particularly clean in their general appearance, as they are veneered with mud for the greater part of the time, and the more mud they can accumulate the better they are satisfied.

The Doctor called the attention of the boys to the wide horns of the buffalo, and said they were often six feet in length, while specimens had been known that measured seven feet from tip to tip. He further remarked that the animal knows how to use them, as any hunter in the interior of the islands can testify; and some are unable to give their per-

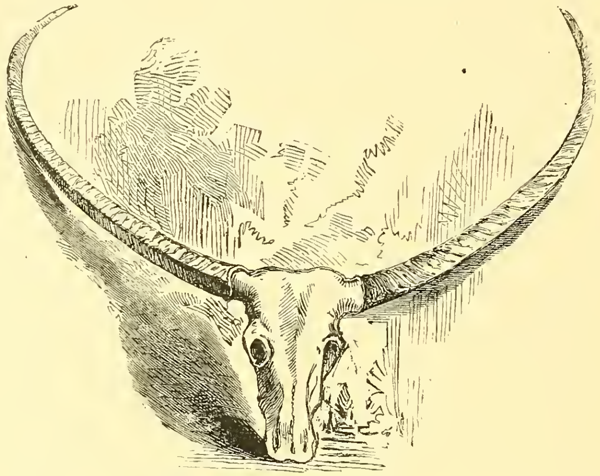


LIFE IN THE WATER.

sonal evidence, for the reason that they have been killed by them. The buffalo is a dangerous beast to encounter when he is enraged; he will shun the white man as long as he can, but, when pressed and pursued, he turns and shows fight. "We shall hear more of him by-and-by," the

Doctor remarked, "and what you hear will be likely to increase your respect for him."

On their way back to the hotel, Doctor Bronson pointed to a series of large buildings, which he said were the Government tobacco-factories. "Every smoker," said he, "is familiar with Manilla cigars—at least ali through the ports of Asia—and this is where they are made. Many people prefer them to Havana cigars, and you will often see a gentleman

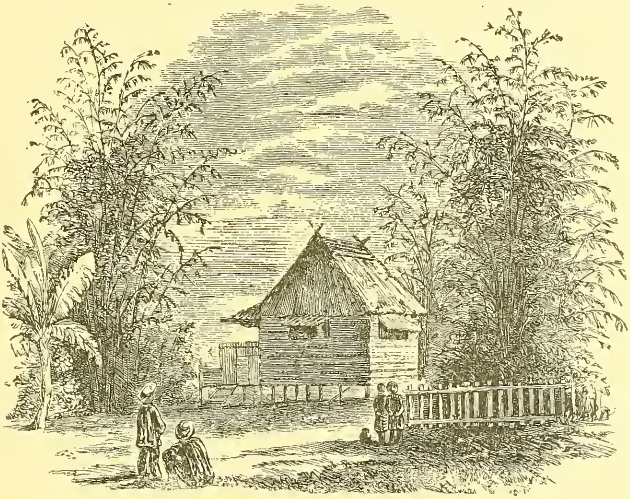


HORNS OF THE BUFFALO.

decline a Havana and accept a Manilla. The best of the Manilla cigars rarely get to the United States; and when they do, the price is so high that they cannot compete with cigars from other countries. Besides, they seem to lose their flavor in the long voyage over the sea, and perhaps this is the reason why Havana cigars seem to be lacking in the proper taste when brought to Japan or China.

"The tobacco-crop of the Philippines pays a tribute of a million dollars every year to the Spanish Government, which is the principal revenue they derive from their possessions in the East. It gives employment, in the factories that you see, to more than 20,000 men and women, besides a great number in the cities of Spain, where the raw tobacco is also worked up. The cigars are of three qualities—firsts, seconds, and thirds; and the prices are graded accordingly. Every box contains a certificate as to the character of the cigars inside, and there is a label on the outside to show the date when the cigars were put up. The clever Chinese in Hong-Kong are in the habit of counterfeiting not only the cigars,

but the certificate and date label: some of them were prosecuted for the fraud a few years ago, and they have latterly been somewhat cautious. They have also a trick of selling first-quality cigars without the box, which they then fill with seconds, so as to pass them off as firsts. A novice will not discover the cheat till he has bought and carried away his cigars, and then it is usually too late to make a change. The old residents of Hong-Kong are not to be caught by the trick, and carefully examine a box before purchasing."



NATIVE HOUSE IN THE SUBURBS OF MANILLA.

CHAPTER V.

AN EXCURSION TO THE INTERIOR.—BUFFALOES AND AGRICULTURE.

IN the afternoon Mr. Segovia called at the hotel to make a suggestion for an excursion into the interior. He explained that he was not at all pressed with business at that season of the year, and could spare a few days for a trip inland: he offered to make all the needed arrangements, and proposed that they should start on the following morning.

"The island of Luzon," said he, "on which Manilla stands, is the

A GROUP OF NATIVES OF MANILLA.

largest of the group; its length is 520 miles, and its greatest breadth about 140. The estimate of its area is 40,000 square miles, and the next largest island, Mindanao, contains 33,000 square miles; the remainder of the group are much smaller, and of less consequence. It would take

you several months to visit all of the islands, and you would find them so much alike as hardly to pay for the expense and fatigue. But you can make a small tour of Luzon, and see the principal features of the Philippines; and if everything is satisfactory, we will set out to-morrow."

The proposition was at once accepted, and the gentleman departed to make the necessary arrangements. "You need get nothing," he said, "beyond what you wish to wear, and may take your roughest clothes for that purpose; I will see to all the provisions and everything else we want, and will come with a carriage to take you to the boat that will be ready for you."

As soon as he had gone, Frank suggested a visit to a book-store he had seen not far from the hotel, in the hope that they might find some books about the islands to carry with them on their journey. Fred agreed to the proposal, and away they went. They soon returned with two books in the English language and one in French, and they passed the evening in the study of these works, in which they found much that was interesting.

The volumes in English were "Travels in the Philippines," by F. Jagor, and "Twenty Years in the Philippine Islands," by Paul de la Gironiere. The latter book was originally published in French, and was written by Alexander Dumas, from the notes of Gironiere, who had led the life of an adventurer and planter in the Philippines. It contains a good deal of truth mixed up with a variety of interesting incidents from the imagination of the famous French novelist. The work of Jagor is more recent than the other, and also more authentic.

Their kind entertainer was true to his promise, and came with the carriage at an early hour; but he was not too early for the Doctor and his young charges, and it did not require many minutes for them to be ready to start on their expedition. "We want to get off as quickly as possible," said Mr. Segovia, "in order to make a good distance before the heat of the mid-day sun compels us to halt. You have been long enough in the tropics to know that the middle of the day should be devoted to rest."

The boat was waiting for them at a landing-place just above the bridge; it was of native construction, and had a rude appearance; but as soon as our friends entered it they found it very comfortable. It reminded them of a Chinese house-boat, and their guide said it was built after the Chinese model, with slight changes to suit the wants of the Philippines. There was a space on the forward deck, where they could sit under an awning or roof of bamboo and pandanus leaves; it was not

sufficiently high to enable them to stand beneath it, but this was no great inconvenience, as there were plenty of little loop-holes where they could look out and study the scenery.

The baggage was stowed in a sort of hold beneath the cabin, or in a space at the stern; in the latter instance, it was under the eyes of Mr. Segovia's two servants, who sat there, and occasionally gave some needed assistance to the crew. The latter consisted of six men and a padrone, or captain; the captain was a Chinese Meti, while his crew were Tagals, or natives of the islands. They were obedient, but not very energetic, and it was very soon apparent that the voyage would not be a rapid one.

The route of the excursion was up the Pasig to a large lake known as

VIEW ON THE RIVER PASIG.

the Lake of Bay. The Pasig forms a natural canal, about twenty miles long, between the lake and the sea, and there are no falls in any part of the way to obstruct navigation. There are numerous villages and farm-houses on the banks of the river, and the boatmen made all sorts of pretences for stopping, in order to make the journey as long as possible. They had been hired by the day, and were anxious not to get through a good contract in a hurry.

Mr. Segovia finally made the padrone understand very plainly that he would be held responsible for all delays, and if the men did not do their duty there would be a deduction from the amount to be paid. This had the desired effect, and after that they behaved better. "Stop as long

as you like at the villages," said the gentleman, "and I will keep a record of your delays, and make your pay accordingly." Nothing could be more reasonable than this, and the men were not long in seeing it.

With rowing and sailing it took nearly all day, with a rest of two hours at noon, to reach the Lake of Bay. They halted for the night at a little village close by where the river begins, and while the sun was yet in the sky our friends took a stroll by the shore of the lake. It seemed to them a very large lake, and the boys were not at all surprised to learn that the circumference of this sheet of water was more than a hundred miles, and that it washed the shores of three fertile provinces—Manilla, Laguna, and Cavite. It abounded in fish, and their attention was called to a fishing-raft, with a curious system of bamboo poles, by which the net was managed. Doctor Bronson explained to the boys that everything about the concern was of bamboo, with the exception of the fibre of the net; and even that, he said, might possibly be of bamboo, as this article can be used for coarse netting, though it is too brittle for fine work.

Their guide informed them that all the waters of Luzon were abundantly supplied with fish, so that this article of food was very cheap. He said a man could live on five cents a day, and have all he wanted to eat; this was the price for the interior provinces—three cents for rice and two for fish and cabbage—but he admitted that in Manilla food was dearer. There a man can hardly subsist on five cents a day, though he can get along very well on ten. Most of the fishes are coarse and of a muddy flavor, and there are not many varieties eaten by foreigners.

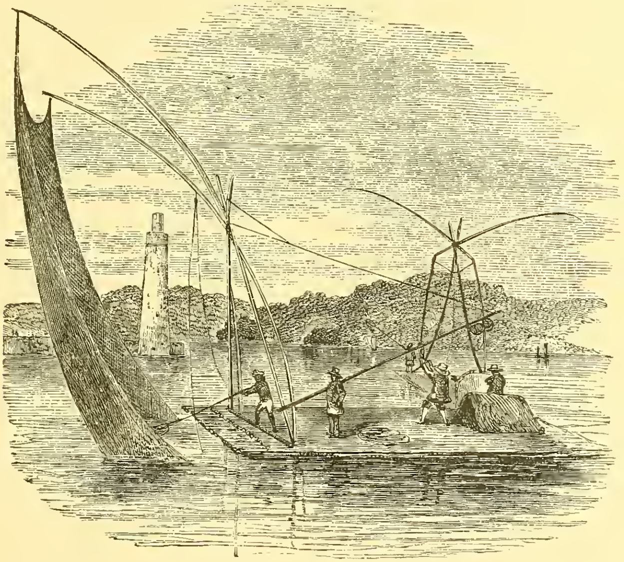
They were lodged in the house of a gentleman who was acquainted with Mr. Segovia, and was glad to have the opportunity of entertaining strangers. "We are away from civilization," said he, "and are delighted to welcome any one who can give us news of the outer world, and relieve the monotony of our life. Hardly a dozen persons come here in a year, and therefore you may be sure that all who do are heartily welcome."

They were bountifully fed at the table of their host; and as he was anxious to talk on almost every conceivable topic, it was very late before they went to bed. The next morning the journey was resumed to the estate of Jala-jala; it was formerly owned by the author of "Twenty Years in the Philippine Islands," and was rather extravagantly described in his book. The shore along the lake is flat, and serves as an excellent pasture for the cattle belonging to the establishment, and back of the shore there is a wide area of slightly elevated country, covered with rice and sugar fields. Beyond these fields is a hilly region backed by a mountain that is thickly wooded to its summit, and abounds in game birds and animals

SCENE ON THE SHORE.

of several kinds. Three sides of the estate are surrounded by water, as it stands on a broad peninsula; there is another peninsula of nearly the same extent farther up the lake, which is likewise the home of a wealthy planter.

The owner of Jala-jala was absent; but the manager invited the strangers to remain as long as they chose, since such was the custom of the country to all visitors who came properly introduced. He offered them horses to ride in any excursions they wished to make over the property, and told them, in true Spanish style, "The house and all it contains are yours." Mr. Segovia was well known at the place, and his presentation of Doctor Bronson and the youths was all that could be desired to make them entirely welcome.

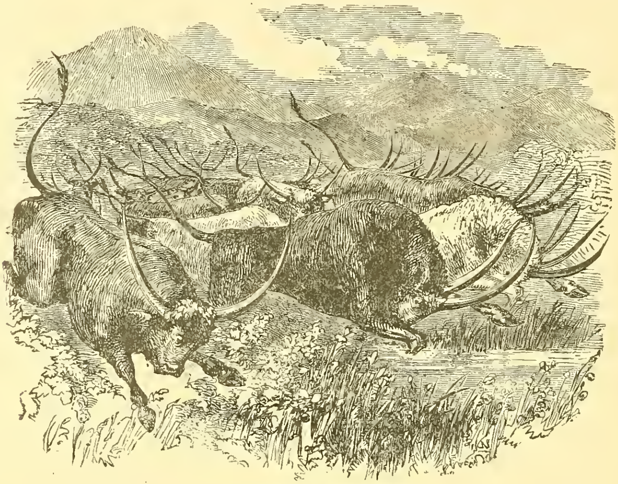


A BAMBOO FISHING-RAFT.

The invitation was accepted by advice of their introducer, and their slender baggage was taken to the spacious house, where rooms were assigned to them. Their morning journey had given them good appetites, and they were quite ready for the substantial breakfast of curry, broiled chicken, and various kinds of fruits to which they were soon called. Then they rested awhile on the veranda, and strolled through the gardens, which were finely laid out, though somewhat neglected in cultivation. Early in the afternoon they were invited to a horseback-ride, and

as soon as the animals were ready they started. A couple of Spanish Metis accompanied them, partly to show the way, and partly to vouch for them to any of the herdsmen they might encounter.

"You must know," said Mr. Segovia, "that this estate has more than a thousand buffaloes, two thousand bullocks, and six or eight hundred horses. The horses are about half wild, and the bullocks more so, while



A STAMPEDE OF BUFFALOES.

the buffaloes are the worst of all. It is dangerous to go about here on foot, as the cattle are excited at seeing a white man walking, though they pay little attention to a native. The herds are watched by herdsmen, to prevent their straying off the pasture-grounds, and also to guard them against thieves, who are sufficiently numerous to cause considerable loss if not closely watched. Sometimes the herds become alarmed from various causes, and then a frightful stampede occurs, in which they run for miles. On this very estate I once narrowly escaped being trampled to death in a stampede of a herd of buffaloes; they had taken fright at the rumbling of the ground during an earthquake, and in their headlong flight they nearly ran down my horse and myself. I just managed to get out of the way; if my horse had stumbled and thrown me, my death would have been certain.

"They are dangerous animals to encounter in hunting," he continued, "as they will face a man who attacks them, and attempt to pierce him with their terrible horns. Perhaps you would like to hear of my first buffalo-hunt in Luzon."

The boys answered that it would give them great pleasure to listen to the story, as it would certainly be very interesting.

"Then I will tell you about it," was the reply. "It was in the mountains, some distance in the interior, where the country is very thinly settled, and the animals are entirely wild. The mode of hunting is to station yourself on the edge of a wood which is known to contain buffaloes; you must have a gun on which you can depend, and, above all, you must have full possession of your nerves. When all is ready, you send two or three Indians with dogs into the woods, to beat up the game and rouse him to the proper condition of anger. This is what I did, and I stood for at least half an hour without hearing a sound.

"The Indians remove nearly all their clothing, so that they can climb trees and get out of the way of the infuriated buffalo whenever he charges at them, and only the most active of the young Indians are selected for this work. By-and-by I heard the barking of the dogs; it kept coming nearer and nearer, and in a little while one of the Indians showed himself at the edge of the forest and sprung into the limbs of the nearest tree. I brought my rifle to my shoulder, and stood ready to receive the assailant. As he came out of the forest, he stopped a moment, as if bewildered at not seeing the Indian; when he looked around his eyes rested on me, and then he came onward, crashing through the small bushes, and trampling down everything that stood in his way.

"He made straight for me, as if intending to run me down, and did not pause till he was not ten paces away. Then he halted for a few seconds, and lowered his head to rush upon me with his horns.

"This is the critical moment when the hunter should deliver his fire, and he must aim directly at the centre of the animal's forehead. If the gun misses fire, or he fails of his aim, he is lost.

"I fired just at the right time, and the bullet went straight to its mark. The buffalo made his plunge as he had intended, but instead of piercing me with his horns, he fell dead at my feet. The Indians then came up and praised my coolness, and predicted that I would become a famous hunter. I have shot a good many buffaloes since then, but it is fair to say I always have some one near me to deliver a shot in case my rifle should fail, and I stand close to a tree, and am prepared to jump behind it if possible. This is a precaution that every one should take, as you can never be certain that your gun will not miss fire, or your shot may fail to pierce the thick skull of the buffalo."

Frank asked how much the buffalo of the Philippines was like that of the United States.

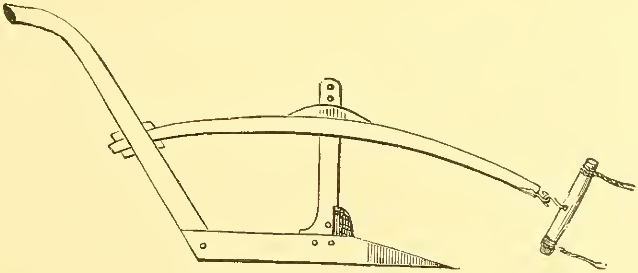
"He is included in the same genus," was the reply, "but the species is quite distinct. The American animal is misnamed when he is called buffalo; he is properly the bison, and his scientific name is *Bos Ameri-*

SHOOTING A BUFFALO.

canus, while the Luzon buffalo is described as the *Bos Arna.* The buffalo of the Philippines is an animal of more docility than the ox when properly domesticated, and is capable of rendering more services to man than

his patient brother. But he must be tamed when very young—less than a year old; if suffered to reach two or three years without restraint, he is sure to be vicious, and is of no use except to be converted into beef. He is stronger than the ox, and will live on coarser food; he eats the bushes and vines that the ox refuses, and he is fond of aquatic plants, as well as those that grow on the slopes of the hills. When the heat is great, he takes to the water, and will spend the whole day there, browsing on the lilies and other things that grow in it. He stirs up the roots with his feet and devours them, and he will even hold his head under water to reach what is growing on the bottom.

"It would be difficult to name all the services he performs for the natives. If you look at Gironiere's book, you will find it stated that the Indian associates the buffalo with nearly everything he does, and from my observation I fully believe it. With the buffalo he ploughs, and on his back he rides or transports articles across mountains, by paths where

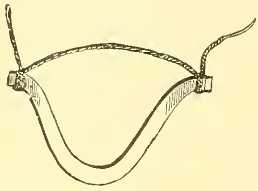


A NATIVE PLOUGH IN LUZON.

even a mule would be unable to go. The Indian also uses the buffalo for crossing rivers and small lakes; he sits or stands on the broad back of the animal, which patiently enters the water, and often drags behind him a small cart that floats on the surface. As you go farther into the country you will see more of the buffalo, and learn how to appreciate him."

At this point of the conversation the party arrived at the edge of a field where some twenty or more natives were at work, under the charge of a half-caste overseer. Some were ploughing with buffaloes or oxen, and others were driving the same animals in harrows. The boys stopped to examine the implements used by the natives, and found they were of a character that would be called exceedingly primitive in America. The plough consisted of only four pieces of wood and two of iron, and the workmanship was such that almost any man could produce with

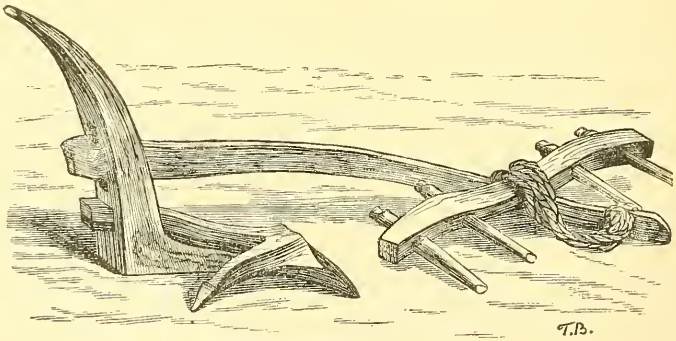
a few rough tools. Their guide told them that the wood came from the forests of Luzon, and cost only a few cents, and the pieces of iron for mould-board and share were sold in Manilla for half a dollar the set.



A BUFFALO YOKE.

The next thing considered was the yoke for the buffalo; and while Frank sketched the plough, Fred made a drawing of the yoke, which was a single piece of wood made to fit the animal's neck, and bring the draught to the middle of the shoulder. It was held in place by a short rope passing under the neck, and the traces were fastened to the ends of the wood. "A plough, yoke, and traces, for a single buffalo, ought not to cost more than a dollar," Fred remarked; and the Doctor quite agreed with him. The further observation was made that when two or more buffaloes were used, they were harnessed "tandem," and not side by side as with oxen in most parts of the world.

A stronger and heavier plough was shown to our friends, and Mr. Segovia explained that it was intended for oxen instead of buffaloes, and was used for stirring the ground where the lighter plough was insufficient. Frank observed that the yoke was not supplied with bows, after the American plan, but had a couple of upright pins at each end to enclose the neck of the ox. When the team is to be made up, the yoke is held over the necks of the animals, and dropped into place; and if they are at all restive, the space at the lower ends of the pins is



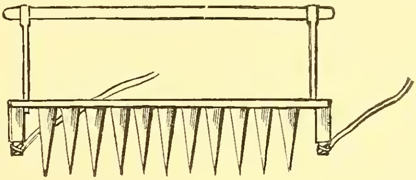
NATIVE WOODEN PLOUGH AND YOKE FOR OXEN.

closed by means of a cord. A rope, instead of a chain, forms the connection between the yoke and the beam of the plough. The latter has only one handle, on the theory that the ploughman needs the use of one

of his hands for guiding his team, and consequently a double hold on the plough is impossible.

From the ploughing-ground they passed a little farther on to where a stretch of muddy ground was being harrowed, so as to make it ready for planting rice. Two or three inches of water covered the ground, and the object of the harrowing was to convert the water and earth into a bed of liquid mud. For this purpose a novel kind of implement was used; it was called a comb harrow, and had a single row of iron teeth fixed in a wooden frame. The traces of the buffalo were fastened so that they had a tendency to draw the teeth forward, and the machine was steadied by a handle or cross-bar parallel to the beam in which the teeth were placed. It was a simple and very effective instrument, and Frank thought it might be used to advantage on certain parts of his father's farm in America.

The soil of the Philippine Islands is, in general, so rich that it yields very bountifully; and, as it is in the tropics, there is no season of frost and snow, when cultivation must cease. Agriculture goes on through the entire year, and on some parts of the soil three and occasionally four crops can be raised. The year is divided into the wet season and the dry; in the former, the rain falls in torrents, and fills the rivers and lakes, together with artificial reservoirs, where water is stored for irrigating the fields in the time of drought. Crops are made to follow each other so that the soil may not be exhausted by repetitions; thus, in the mountain districts, it is customary to plant the ground with rice, and, as soon as it is gathered, it is followed by a planting of tobacco.



THE COMB HARROW.

Formerly the island of Luzon produced large quantities of pepper for exportation, but at present there is hardly enough grown there to supply the local demand. Fred asked the reason of this, and was told the following story:

"The price of pepper was fixed by a measure called a *ganta*, which was used by both sellers and buyers. The Philippine Company had the monopoly of the pepper-trade, and were making a fine profit out of it, but it seems they were not satisfied to let well enough alone. One year, when the pepper-growers came to Manilla to sell their product for the season, they found that the agents of the Company had altered the meas-

ure by making the ganta of the Company double the ganta of the Indians, so that the sellers were enormously cheated. The Indians were angry at this trick, and immediately went home, destroyed their pepper plantations, and devoted their attention to other articles of culture."

"Served the Company right," said the boys, "provided the poor Indians were able to get along with something else."

"As to that," was the reply, "they were not likely to suffer, as they could raise tobacco, rice, sugar, and two or three other things, on the same ground; but it is proper to say that there are few articles that can be cultivated as easily as pepper. Pepper requires very little care; all that is needed is to take a little twig of it, bend the two ends together, cover the middle with a little earth, and tie the ends to a prop of wood six or eight feet long. The plant grows and clings to the prop till it reaches its top, and there it stays and takes care of itself. The owner has only to remove the weeds once in a while, and to stir up the earth around the foot of the plant so that it can absorb plenty of moisture. The grains are gathered as fast as they change from green to black, and are then spread out in the sun and dried."

TAGAL INDIANS CLEANING RICE.

CHAPTER VI.

HUNTING IN LUZON.—CROCODILES AND GREAT SNAKES.

FROM the fields where they saw the natives at work, our friends proceeded on their ride. Sometimes they were in the open country, and then in the forest; and as they rode along, their guide called their attention to many things of interest. The forest was rich and luxuriant, and sometimes the vines and creepers were so numerous that it was difficult to proceed. There were pitcher-plants hanging from the trees, and two or three times the excursionists drank from them to slake their thirst. A wild boar was roused from his lair, but, as the party was unprovided with hunting weapons, he was not pursued, and the same was the case with a deer that came bounding across their path. In one part of the forest several wild monkeys chattered from the tops of the trees, and made grimaces at the intruders; but they were not otherwise disturbed than by the presence of the strangers.

They came at length to the shore of the lake, and dismounted. The boys suggested that a bath in the tepid water would be agreeable; but their guide shook his head very impressively, and remarked that their lives would not be worth much after they took their first plunge.

"Why so?" inquired one of the boys.

"Because," was the reply, "the lake swarms with crocodiles, and you would be in the jaws of one of them before you could swim a dozen yards."

As he spoke, he pointed to a dark object on the surface of the water a hundred yards or so from shore. At first glance it appeared like a log of wood, and so the strangers would have considered it but for the special direction they had received.

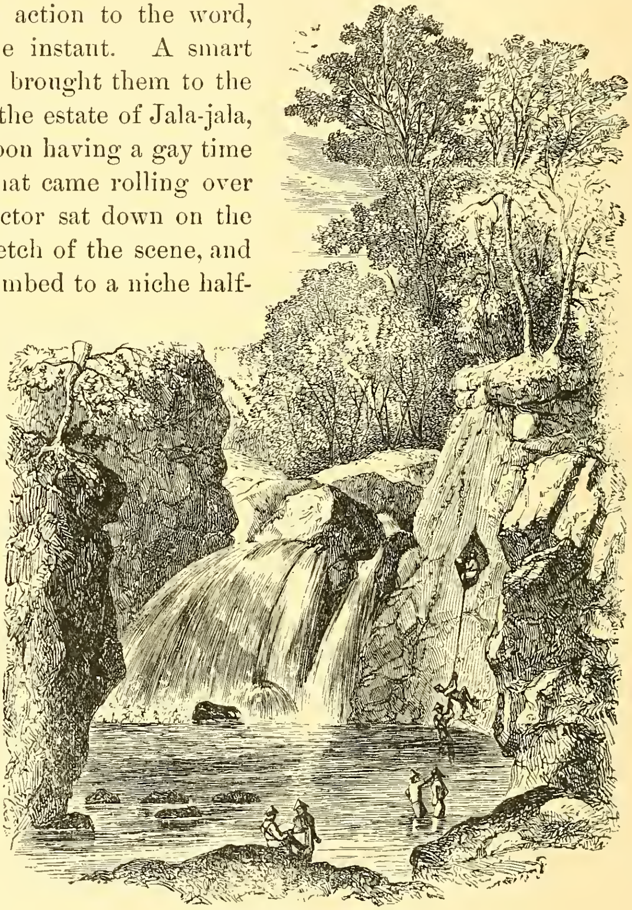
The boys regarded it a few moments with great attention, and then Fred cried out,

"I believe it's the head of a crocodile!"

"And I, too," said Frank. "Perhaps he'd like to have us take a bath here; but we won't do anything of the kind."

"It is quite unsafe to bathe here," said Mr. Segovia, "and after what you have seen you are not likely to venture; but we will mount our horses, and ride a few miles back from the lake to where there is a pretty cascade with a fine pool below it; there you may have a bath without the least danger."

They suited the action to the word, and were off on the instant. A smart ride of half an hour brought them to the cascade, which is on the estate of Jala-jala, and the boys were soon having a gay time in the pure water that came rolling over the rocks. The Doctor sat down on the bank and made a sketch of the scene, and the native guides climbed to a niche half-way up the rocky side of the cascade by means of a long *liana*, or hanging plant, that abounds in the forests of the Eastern islands. After half an hour at the cascade the party returned to their horses, which were waiting a short distance away, and as the afternoon was well advanced, it was determined to make all haste to the house, where dinner would be awaiting them, in accordance with the promise of their host.



CASCADE NEAR JALA-JALA.

On the way back, Mr. Segovia had a short conference with Doctor Bronson while the boys were riding ahead. It was evidently concerning Frank and Fred, as the Doctor assured his friend that the youths were both of excellent disposition, and could be relied upon in an emergency. "If you take them along," said he, "you will find they will be perfectly

cool and self-possessed, and will not make the least interference with any of your plans."

"In that case," the gentleman responded, "it is all right, and we will make the excursion to-morrow."

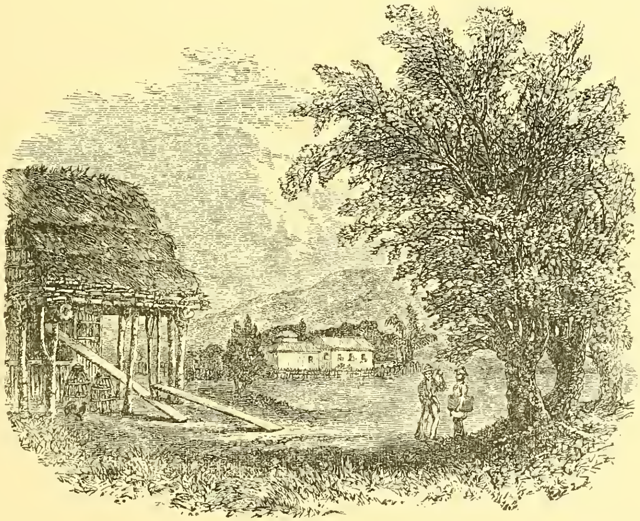
Frank and Fred overheard the latter part of the conversation, but they were too well bred to ask any questions. They were satisfied to let events develop themselves, and meantime they devoted their attention to the practical matters that surrounded them.

"What an interesting ride we've had!" said Fred, as they passed near a rice-field where the young plants were just pushing above the ground. "I might get tired of looking at these rice-fields after a while, but don't see any signs of it yet."

"What I would like to see," Frank responded, "is a string of fields with all the different kinds of rice growing side by side. How many do you suppose there are?"

"I can't tell, I'm sure."

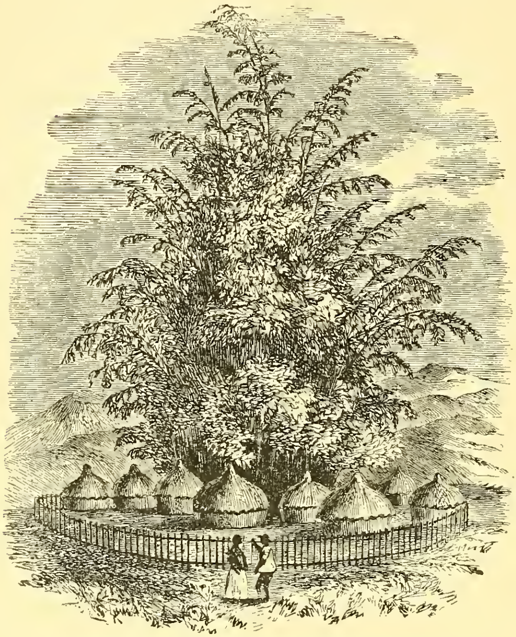
"One of the books we bought says there are more than thirty kinds of



THE HOUSE AT JALA-JALA.

rice grown in the Philippine Islands, all quite distinct in color, form, and weight of the grain. They are divided into two classes—mountain rice and aquatic rice; but the mountain variety can be treated just like the aquatic rice, and it will grow."

"Mountain rice," Fred continued, "grows on the higher ground, where it is not liable to inundations from the rivers, but the aquatic rice needs a great deal of water, and the fields must be very moist all the time it is growing, or till it gets near ripening. It is like the rice raised in the United States, and in Japan and China; and the rice-swamps of Luzon are probably just as unhealthy as those of the Southern States of America, that we used to hear so much about."


STACKING RICE IN THE PHILIPPINE ISLANDS.

"Do all the kinds of rice yield the same?" Frank asked.

"Some of them are better than others," Fred answered; "at least the book says so. Some kinds return thirty, some forty, and some eighty fold — that is, from a bushel of seed they get thirty, forty, or eighty bushels. The best rice generally does not yield so well as the poorer varieties, so that what they make up in one way they lose in another by the end of the year."

"When the rice is harvested it is put up in high stacks, with a roof of pandanus-leaves on top to keep out the wet. That must be a rice stack over there," said Fred, as he pointed to a circular enclosure a little distance away. "Yes, and there are several stacks with a fence around them, and a clump of bamboo-trees in the centre. I suppose they put the rice there to dry, and when it is ready it will be thrashed out."

They passed the enclosure, and a little farther on there was a group of Indians engaged in pounding rice to separate the grain from the husk. The apparatus was exceedingly primitive, being simply a mortar with a heavy pestle, which was raised in the air and then brought down with all the power of the person who was wielding it. Just then the Doctor and Mr. Segovia rode up, and the latter explained that, while mills for

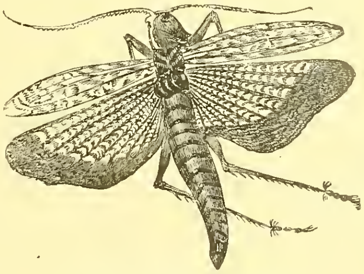
cleaning rice were in use all over the islands wherever rice was grown, many of the natives preferred the old process, and were contented with the mortar and pestle. "In the back regions," said he, "where mills are scarce, they thrash the rice from the stalk by treading it out with buffaloes, and remove the hulls as you see them now."

Frank asked if there was any variation in the rice-crop from year to year, so as to make its cultivation a matter of uncertainty.

"There is not much variation," said the gentleman, "but we can never be certain of a crop till it is gathered. A short supply of water may dry up the fields, and too much rain may inundate them and wash the plants out, but this is not often. The greatest uncertainty is with the locusts, as they come suddenly, and sometimes destroy an entire crop in a day or two."

"How often do you have the locusts?" one of the boys asked.

"About once in seven years," was the reply. "They come from the islands farther south, and you can hardly realize the desolation they make till you have seen it. A reddish-colored cloud is seen on the horizon; it comes nearer and nearer, and is frequently ten or twelve miles from one side to the other, and occupies five or six hours in passing over. This cloud is formed of millions and millions of locusts, and sometimes it is so dense that the sun is darkened the same as when a thunder-shower rises. If the locusts perceive a green field they fall upon it, and in an hour every vestige of verdure has disappeared; then they rise and move on to join their companions in the air, and the different parts of the column seem to take turns in feeding. When enough have come down to cover a field, the rest move on, and those who have satisfied their appetites take their places in the rear. In the evening they halt in a forest and rest on the limbs of the trees, and frequently so many of them cover a limb that it breaks off and falls to the ground. When they leave in the morning, the forest looks as though every tree had been struck and shattered by lightning; the leaves are all gone, the limbs are broken, and the ground is strewn with the scattered fragments. At certain periods they remain on broad plains, or the sides of fertile mountains, and lay their eggs. Three weeks later the eggs are hatched, and the young locusts appear; they live upon whatever green food they can find till their



THE PHILIPPINE LOCUST.

wings are formed, and then they fly away to do their work of devastation."

Dinner was ready on their arrival at the house, and the party sat down to it with excellent appetites—the result of their ride over the estate. All went to bed early, as the hint was given that the next day would be a fatiguing one. But the character of the sport to be provided was not given.

They breakfasted early, and immediately started in a boat that was ready at the little pier in front of the house. Two boats had already gone ahead of them, and while the boys were wondering what was to be done, the Doctor called their attention to something below the surface of the water. The boys looked, and speedily discovered that the strange object was a huge crocodile.

"There's no fear of him," said Mr. Segovia, "as he happens to be dead."

"How was he killed?" Frank asked.

"I can't say positively," their guide replied, "but he has probably been shot at by somebody, and died in consequence."

"The crocodile is very difficult to kill, as his scaly hide will turn a bullet, except in a few places. The most vulnerable point is behind the foreleg, where the skin is comparatively thin; and if you can creep up to within fifty yards of a sleeping crocodile, and lodge a ball in that spot, he is done for. If you make use of explosive balls, so much the better, as you then tear a great hole in him, and disturb his organs of digestion and respiration. Nineteen-twentieths of the crocodiles that are shot at escape apparently unharmed, but we have the satisfaction of knowing that many of them afterward die from the effect of their wounds."

"How is that?"

"If a crocodile has ever so small a scratch in his skin, it is his death-warrant. He lies down to sleep in the mud, the shrimps find the scratch and begin eating at it, and in a little while they enlarge it to a huge wound. They continue to eat away at it, are joined by other occupants of the water, and in the course of a week or two the crocodile is literally devoured. He has nothing to do but die, and so he climbs to a sand-bank or sinks to the bottom of the lake, and ceases to be a terror to the inhabitants of the shore.

"I was one day down by the shore of the lake," the gentleman continued, "where a little stream flows in from the forest. One of the female servants of the house was sitting near the bank, when a huge croc-

A NATIVE WOMAN SEIZED BY A CROCODILE.

odile rose suddenly from the water and seized her. A herdsman was on the opposite bank of the stream with his rifle: he fired, but apparently to no purpose, as the crocodile disappeared into the water, and carried the unfortunate woman with him. A month later his body was found on a sand-bank several miles away, and an examination showed that the shrimps had made an entrance through the scratch caused by the bullet, and as soon as this was done the death of the crocodile was only a ques-

tion of time. The identity of the murderer was established by the ear-rings of the woman in his stomach.

"I once had a fight of three or four hours with a crocodile that had entered a narrow lagoon connecting with the lake, and seized a horseman who was crossing. We made a strong net of ropes, and stretched it across the entrance of the lagoon to prevent his escape into the lake; then we lashed two canoes side by side, and with long poles stirred the bottom till he rose to the surface. As he opened his mouth to attack us, we sent a couple of explosive balls down his throat with as many Remington

A HUGE CAPTIVE.

rifles, and another was lodged in his skin under the foreleg, when he turned about to dive. He went down and tried to break through the net, but it was too strong for him, and then it took an hour or more to urge him to show himself again. We fired nearly a dozen balls into him, and at last he caught his head in the net when he was about expiring; we drew him to the shore, and found, on taking his measurement, that he was twenty-seven feet long, and had a girth of eleven feet around the body just behind the forelegs.

"So much for the crocodile, but we are not going to hunt him to-day; we are in pursuit of game that lives on land, and is not amphibious. If

fortune favors us we will capture a wild boar, and perhaps we may find something else before the day is over."

Then it became clear to the boys what was meant by the boats in advance. They contained the dogs, guns, ammunition, provisions, and other things for the day's sport, together with a dozen or more men to act as beaters, and stir up the game. The Doctor told them they were bound for a point half a dozen miles up the shore, where horses had been sent around by land to meet them.

In due time the hunting-party was at the appointed place, and the beaters set out for their share of the work, followed by the hunters. It was expected that a wild boar would be stirred up not more than a mile or two away, as this kind of game was plentiful, and had not been much hunted of late. In fact, one was stirred up, but in a manner quite different from what had been looked for.

While the party was on its way through the forest to the point where the hunt was to begin, the screams of a wild boar were heard, as though the animal was in great agony. Mr. Segovia was the first to hear the sound, and immediately he dashed off, and was followed by the rest. The sound appeared to come from a tall tree that could be seen rising above the rest; the brushwood near it was so dense that the horses could not get through, and so our friends dismounted and proceeded on foot. The sight that met their eyes was an astonishment to the boys!

A great snake had caught a wild boar in his coils, and was slowly lifting him from the ground, while the victim was manifesting his terror in his loudest tones. The Doctor was about to fire at the snake, but at a sign from Mr. Segovia he stopped, and the party stood in a place of concealment to see the end of the combat between, as Frank expressed it, "the boa and the boar."

When he had lifted the boar clear from the ground the snake swung him against the tree, crushing his bones and killing him. Then he let his prey fall, and proceeded to unwind himself and descend preparatory to eating his breakfast. As he loosened his coil the signal was given for the Doctor to fire; and, as he had an explosive bullet in his rifle, he shattered the head of the snake completely. The serpent fell to the ground at once; he lashed the trees and bushes in a frightful way, but as he was totally blinded by the smashing of his head, he could do no damage to anybody. The attendants came forward and secured some bamboo loops around the reptile's neck, and suspended him from the tree, where he continued to twist and turn till the party moved on. The natives said that these contortions would continue for hours, and that they rarely

ceased till sundown, even though the head of the snake had been detached before noon.

As they moved on to their hunting-ground, our friends discussed the

A WILD BOAR ATTACKED BY A BOA-CONSTRICTOR.

incident of the morning, and wondered if they would see anything more of the same sort. Mr. Segovia told the boys that the boa-constrictor was a very common snake in the Philippines, and sometimes grew to great

size, though less so than in Sumatra and Borneo. "He is far less dangerous than you might suppose," said he, "as he rarely attacks man, and there is no poison in his bite; in fact, he has no bite at all, and his mode of killing his prey is by crushing it as you have just seen. Once in a while a native is killed by a boa, but the occurrence is rare, and generally owing to the carelessness of the victim rather than the superior cunning of the snake. He is not very active in his ordinary movements, but if roused he can display considerable agility, when the size of his body is considered.

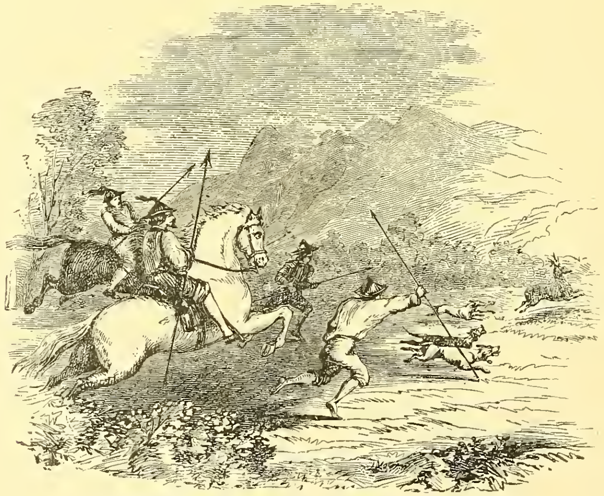
"I once had a fight with a boa that had taken refuge in a crevice among the rocks, where my dogs found him. They barked furiously,

FIGHT WITH A GREAT SNAKE.

and the snake tried to reach them with his jaws, but they were very agile in their movements, and managed to elude him. I came up with my men, and sheltering myself behind a rock close to the crevice, took careful aim, reserving my fire till his head was poised for a blow. I put a large ball through his head, and soon afterward another through his body, and then his writhings were furious; he twined himself round the rocks and bushes within his reach, and in so doing overturned a large rock, that fell on one of his folds and pinned him down. In this

position he continued to dart his head from side to side with great rapidity, and with such force that a blow from it would have been no small matter. In an hour or so his strength gave way; I had sent one of my men for assistance in skinning the snake, and by the time the re-enforcements arrived the reptile was in a condition to be lashed up to the nearest tree. He measured nearly seventeen feet in length, and his skin was most beautifully marked.

"There are several venomous serpents in the Philippines, one of the most dangerous being the *dajon-palay*, or rice-leaf. The only antidote to its bite is to burn the wound with a red-hot iron or live coal, and this operation must be performed very quickly, to prevent the spread of the poison. There is another called the *alin-morani*, which is as bad as the other, and perhaps worse, as it makes a wound that is deeper, and therefore more difficult to cauterize. It grows to the length of eight or ten feet, and lives in the thickest part of the forest; its habitation may sometimes be known by observing the movements of the eagles, and the prudent hunter will keep as far away from it as possible. The eagles are its great enemy, and attack it fiercely; two of them generally fight together, and in such a case the snake has very little chance of escape."



A STAG-HUNT IN LUZON WITH HORSES AND DOGS.

CHAPTER VII.

HUNTING THE DEER AND WILD BOAR.—RESULTS OF THE CHASE.

A LITTLE while after the incident with the snake the party came to where the servants were waiting for them with breakfast: according to the custom of the East, the early meal taken at the house was a slight affair, so that by the middle of the forenoon one is apt to get fairly hungry. They sat down under a shady tree, and discussed the good things before them with a relish that came from the walk and ride through the open air and the excitement of the scenes of the morning. The boys were much amused at seeing the way the natives cooked their rice in a piece of bamboo, and served it up all fresh and hot. This is the process:

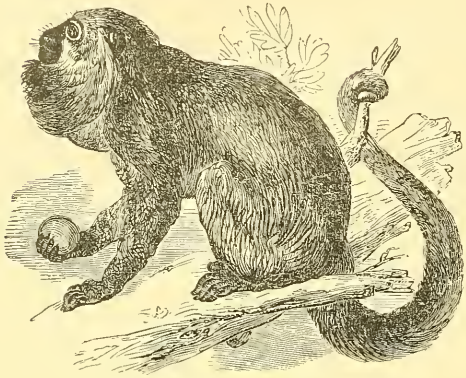
A green bamboo is cut in the forest, and one of the hollow joints is separated from the rest of the stalk; the rice is put inside the bamboo, with a sufficient quantity of water to cook it, and then both ends are loosely closed. The bamboo is then laid in the fire as if to burn it; it gets somewhat charred on the outside, but, before it reaches the point of burning through, the rice is cooked and ready to be poured out. Thus you can always be sure, in the region of the bamboo, of having a kettle for cooking your rice, although you have not brought one along.

When breakfast was over the hunters were assigned to their various stands, as the hunt was to be of the kind known as a battue. The beaters go out and drive up the game, which is induced to run in the direction where the marksmen are standing to receive it; the latter have nothing to do but remain quiet, and shoot at the animals as they go past them. There was a sufficient number of guns for the three strangers as well as their host, and so the boys were assigned to places by themselves, instead of standing with their elders. Quite naturally, they were proud of the honor thus shown them, and each was hoping very earnestly, though he did not say so aloud, to do something worthy of the occasion.

They were instructed not to fire except in certain directions, lest they might endanger the lives of others, and they faithfully promised not to

violate the order; then, when the horn was blown in a particular way, they were not to fire at all, as the beaters would be close upon them, though invisible through the underbrush, and might be hurt through carelessness.

"It is an even chance," the Doctor remarked, "whether we get a deer or a wild boar first. The latter are the more numerous in this forest, but the others are the best runners, and the more easily disturbed. We will see."



A HOWLING MONKEY.

So saying, he went to his post, while the boys went to theirs. For half an hour or so there was nothing to indicate the possibility of game, with the exception of some monkeys in a neighboring tree, that kept up a perpetual chatter on account of the disturbance of their seclusion. There were several varieties of these brutes, but they kept so far away that their character could not well be made out. There was one kind, larger than the rest, that appeared to be a champion howler, as he occasionally set up a most unearthly noise that could have been heard for a long distance. Frank had a good view of one, and said he was a sort of maroon color, with a red beard, and had a swelling under his neck, from which he brought out the music. "He seems to enjoy it," said Frank, "and if he can be happy by making such an outrageous tumult, by all means let him have his fun."

By-and-by the barking of the dogs was heard in the distance; it slowly approached, and then everybody made ready to do the best possible work with his weapon. A crash was heard among the brushwood, and soon a fine deer came bounding out of the wood, and ran directly toward Fred's place.

Fred brought his gun to his shoulder, and when the deer was not more than twenty feet away the youth fired. The aim was good, and the whole charge passed into the shoulder of the animal just over the region of the heart. With one bound he fell dead at the feet of the young hunter.

A moment later came the report of Frank's gun, and with a result equal to that of Fred's shot. The two boys were about to give a loud

DEER IN A TROPICAL FOREST.

hurrah, when the Doctor motioned them to silence; it was his turn and that of their host to have a chance at something.

In less than ten minutes two other deer appeared, and were brought down by the guns of the elders of the party. Another deer ran past them, but he was too far away for a good shot, and as they now had plenty of venison, they allowed him to go unharmed.

The beaters soon appeared, and then the deer-hunt was declared at an end. "We will now go," said Mr. Segovia, "to a place where there are plenty of wild boars and fewer deer. Unless you have a most excellent opportunity for a shot, do not trouble yourself about deer, but devote your attentions to the wild boars, which you will find no easy brutes to kill."

"And perhaps," the Doctor added, "you may as well let the largest of

POND SCENE IN LUZON.

them go undisturbed, and only shoot the young fellows; the old boars are dangerous when wounded, and we don't want to go home with holes torn in our skins by their tusks."

The boys promised to obey the directions that had been given, and took the places assigned to them. They were not far from a little pond, which had a thick growth of tropical trees and plants all round it, and there was so little wind blowing that the water was like a mirror, and reflected its banks with great distinctness. Frank was so intent upon studying the picture that he did not pay proper attention to the hunt, and before he was aware of it a fair-sized pig had dashed by him, and disappeared in the thick underbrush.

A moment later a shot was heard from the Doctor's gun, and then another came ringing through the woods, followed by a shout from Fred for assistance. Frank ran to his cousin, and found that he had wounded a boar, but had not killed him, and while he was reloading his gun the weapon became clogged, and the cartridge would neither go back nor forward. The boar was dashing wildly about, and threatening danger to the youth; the latter was endeavoring to keep a tree between himself and the infuriated beast, and, with his disabled gun in his hand, was somewhat awkwardly situated.

"Finish him! finish him!" said Fred, "and be quick about it!"

Frank performed the finishing touch almost as soon as Fred pronounced the words. The boar fell dead at the shot, and gave Fred the opportunity to devote his entire attention to putting his gun into a serviceable condition again. In a few minutes the refractory cartridge was removed, and then the boys surveyed their game.

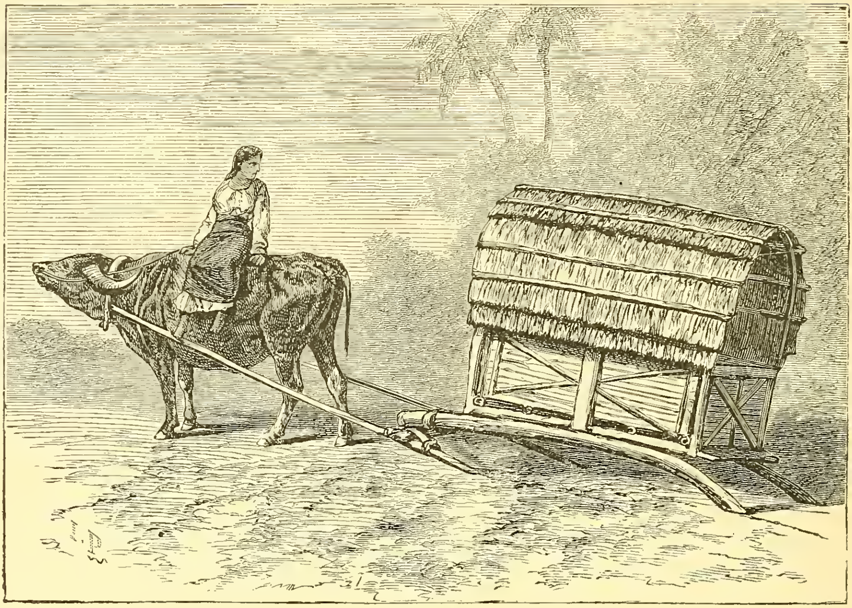
"Seems to me he's a good-sized one," said Fred; "and see, he has a pair of tusks; they are not large, but we must keep them as a trophy of our day's hunting in Luzon."

"Yes," replied Frank, "but how shall we divide a pair of tusks? We must shoot another like him, and then we can have a fair trophy for each of us."

"We'll stay here together," Fred answered, "and when the next one comes we'll both shoot him, and the honors will be equal."

Just as he spoke there was another crash in the bushes, and a boar, that might have been a brother of the dead one, made his appearance. Frank was first to fire, and Fred immediately followed with a shot. Between them they killed the animal, and in such a way that neither could claim all the glory of the slaughter. As Fred had predicted, the honor was divided, and they were partners in possession of the game.

Other shots soon followed from the Doctor and their host; and then there was a long interval, with not a sound to break the stillness. Then the beaters made their appearance; the horn was blown to announce the end of the hunt, and the party assembled for the return homeward. Everybody was in fine spirits, as the chase had been successful, not only for the party collectively, but for each individual. The attendants went to collect the game, and, when it was all brought together, there was a goodly amount of it. Four deer and seven wild hogs comprised the result of the day's shooting, without counting the snake; Frank thought the latter should be included, and remarked that snake-shooting was fairly entitled to be ranked as hunting, when the snake was a large one.



A PAVAVA.

The transportation of the game was something to be considered. Mr. Segovia solved the problem by suggesting that he had sent to an Indian village, a mile or so away, for a pavava. This and the pack-horses would be sufficient; but he had told the attendant to bring a couple of pavavas if he could get them.

One of the boys very naturally inquired what a pavava was, as he had never heard the word before.

"We shall meet it on our way to the boat," was the reply. "It is a sort of sled or cart made by the Indians, and used for purposes of transportation, and it is drawn by a single buffalo. There are a couple of runners which curve so that their rear ends only rest on the ground, while the front of the vehicle is supported by the shafts. The frame and body of the pavava are of bamboo, and so are the shafts; the collar of the buffalo is of heavier wood, and the roof of the concern is of pandanus-leaves, over a frame of light bamboo. It is so light that a man can easily lift it, and it will hold as heavy a load as one buffalo can draw."

Having acquired this information, the boys next wished to know something about the wild boar, and especially about those they had killed—whether they were to be considered first, second, or third class. On this subject the Doctor enlightened them.

"The ones you have killed," said he, "are probably about two years old, and therefore are not first class. The boar does not attain his full size and strength till he is four years old; the proper classification is like this: first year, pig of the saunder, or briefly 'pig;' second year, hog of the second, or 'hog;' third year, hog-steer; and fourth year, and afterward, wild boar, or sanglier. You have killed a pair of 'hogs,' and very good ones they are. They probably weigh about two hundred pounds each, and when we get to Jala-jala we will put them on the Fairbanks scales we saw there yesterday, and see how far out I am in my guessing."

Frank wished to know if these animals were natives of the Philippine Islands, or had been brought there from some other country.

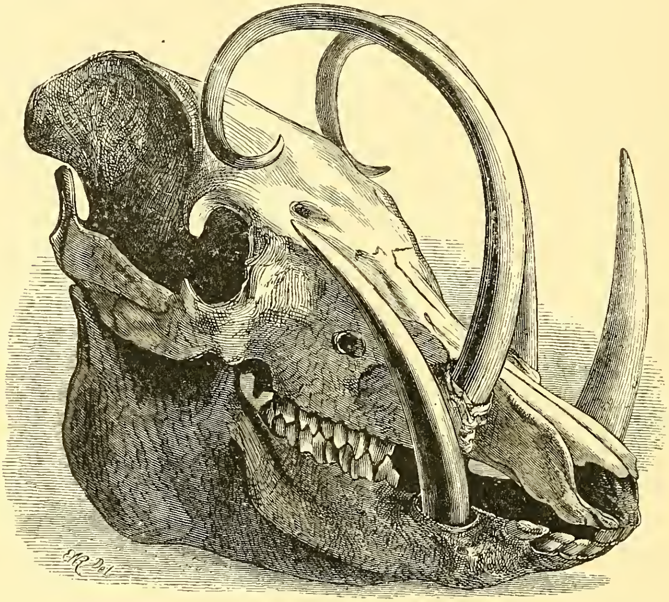
"The hog was originally unknown in a natural condition in America, Australia, and the Pacific islands," replied Doctor Bronson, "and his presence there is due to the early navigators, who turned pigs loose in the forests, and allowed them to shift for themselves. The Spaniards did so in the Philippines three hundred years ago, and it is to them that we owe the great number in the forests of Luzon. Those you have killed are descended from the original importations of the Spaniards, just as the wild hogs in the forests of South America, and on the many islands of the Pacific, are descended from those left by Captain Cook and other explorers."

Fred asked how large these animals became when left to themselves for years in the forest.

"That depends on circumstances," the Doctor answered. "Some of them have been known to weigh four hundred pounds, and occasionally you hear of one that tips the scale at five hundred. I saw one in India that weighed four hundred and fifty-six pounds, and had tusks about ten inches long. The peculiarity of the wild boar is his powerful tusks; they have an awkward appearance, but he can do terrible execution with them, ripping up the flank of a horse as though the horn of a bull had passed through it, and tearing a dog or man to pieces in a few moments. As I told you, when we started in on the hunt, it is well to be cautious about attacking a full-grown boar, on account of the danger from his tusks."

"In some of the islands of the Malay Archipelago," he continued, "there is a species of wild hog called the *babirusa*, that does not seem to belong to the hog family as we know it. Its legs are longer, and its body is more slender than in the rest of the swine species; it does not root in the ground, but lives on the fruit which falls from the trees. The tusks of the lower jaw are very long and sharp, but the upper ones, instead of growing downward in the usual way, are curved

upward and backward to near the eyes, and sometimes they attain a length of eight or ten inches. These tusks do not seem to be of any use, except to protect the eyes from the thorns of the trees and bushes where the animal lives. The babirusa is quite as fierce as the ordinary wild boar, and is more fond of the water. He will take to a pond or river when pursued, and is said to swim with great ease."



SKULL OF BABIRUSA.

"The chase of the wild boar has been a recognized sport in all ages; we read of it in ancient histories as well as in modern ones, and in certain periods of the world it was more fashionable than any other form of hunting. During the Middle Ages it was highly popular in England and on the Continent, but in our day the wild boar has disappeared from England entirely, and is only found in a few parts of Europe. The best localities for hunting him in Europe are in Greece and Italy, but if you want the sport in all its glory you must go to India. One of the great amusements of the British officers in India is "pig-sticking," as it is called, and those who have indulged in it say that the excitement of a pig-chase equals anything they have ever seen."

The conversation was here interrupted by meeting the pavava that had been sent for to bring home the game from the forest. Mr. Segovia

gave some directions concerning the work in hand, and then the party rode rapidly to the boat that lay waiting for them. There was a light breeze blowing in the right direction, and so a quick passage was made back to Jala-jala. There was enough to talk about for the evening, and neither of the boys could keep his thoughts away from the fact that he had shot a deer and a boar on the same day, and assisted in the slaughter of a boa-constrictor. It was glory enough for twenty-four hours at least, Frank said, as he went to bed; Fred thought it could be spread over three or four days without becoming too thin, and even a month would not be too much.

"A deer, a hog, and a share in a snake," murmured Fred, as he settled his head on his pillow.

"A wild hog, a deer, and a share in a snake-fight," whispered Frank to himself, as he dropped off to sleep. "Wonder what Miss Effie and Mary will say to that? I declare I haven't written home since we left Java; but then there hasn't been time, and besides we've had no chance to send letters. I must ask the Doctor in the morning when there is a mail for America, and how it goes."

A moment later he was in the land of dreams.

The question relative to the postal facilities of the Philippines was duly propounded in the morning, and received the following answer:

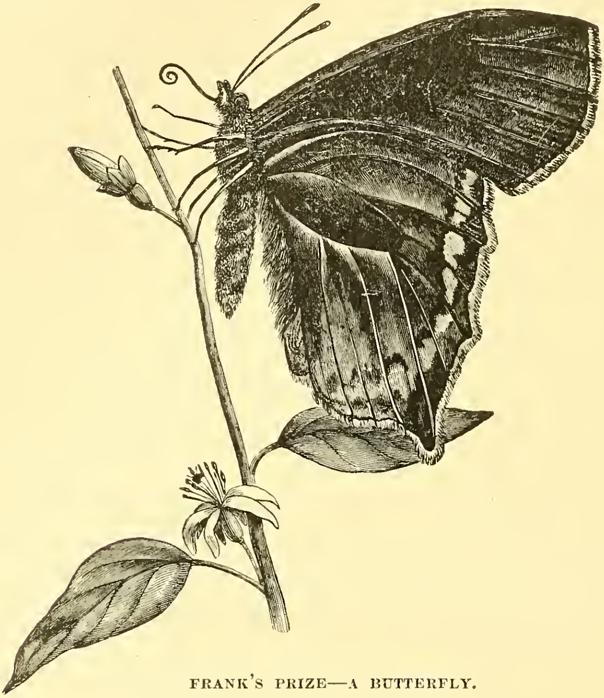
"There is a steamer once a fortnight each way between Manilla and Hong-Kong; the distance is 650 miles, and the voyage usually occupies about three days. It is nearly the same distance to Singapore; in the busy season there is a semi-monthly steamer to Singapore, but it is not generally maintained through the whole year. For letters to America the quickest route is *via* Hong-Kong, whence there is a mail twice a month to Yokohama and San Francisco. The last mail for Hong-Kong left Manilla a day before your arrival, and so you have plenty of time to get your letters ready for the next.

"At the time of year when the crops have been harvested, and the product is going forward to the European market, there are many irregular steamers from Manilla to Singapore, and also to Hong-Kong. There are also sailing-ships bound for European and American ports, though not as many as from one of the great ports of China or Japan. We shall have no difficulty in getting away from the islands, as we had no difficulty in getting here; though we may possibly be compelled to wait a few days after we are ready to start."

At this moment a servant came to call our friends to breakfast, and the conversation came to an end. During breakfast it was announced

that an excursion would be made on the lake that day, and would start in half an hour.

At the appointed time the boys were at the boat, and with the rest of the party. Just before they embarked, Frank saw a handsome but-



FRANK'S PRIZE—A BUTTERFLY.

terfly on a stalk near by, and managed to capture it. The Doctor pronounced it a fine specimen, and it was immediately stowed away in the box kept for prizes of this sort.

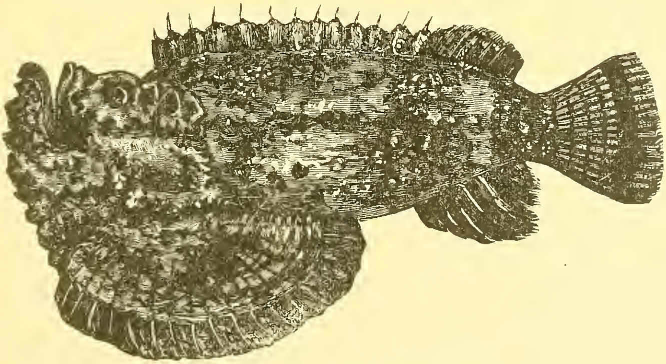
"First game for the day," said Frank. "Now, who will have the next?"

Fred made no response, but eyed the water intently, as he saw something moving in it close to the shore. Seizing a hand-net that lay on the ground, he made a sudden swoop in the water, and brought up a prize.

"Second game for me!" he shouted, as he deposited on the ground a strange-looking fish, with a mouth opening directly upward instead of being placed where the respectable fish is accustomed to have his mouth.

Below the head there was a spongy and shapeless mass, with the ventral fins attached, and the whole length of the fish was covered with a glutinous substance that stuck to the grass and weeds, where he had been dropped. Along the back was a row of spines, that rose and fell alternately, as though they were trying to pierce something. Both the boys pronounced the fish the ugliest product of the water they had ever looked upon, and the Doctor said the American sculpin was a model of beauty compared to this monster.

"His scientific name," said Doctor Bronson, "is *Synanceia brachia*, and he is popularly known as the mud-laff. He abounds in tropical waters, and in most Asiatic countries he is eaten by the natives; but the Europeans will have nothing to do with him. He lies in the mud and weeds at the bottom of rivers, and is quite concealed from view. You observe he has sharp eyes, which peer up through the water and watch for his prey; when it comes in his reach he sucks it in with a single inhalation, and this is why his mouth is so oddly placed. The spines on his back are poisonous, and if you should be pricked with them you would have a painful wound that might last you for weeks. Mr. Pike, in his 'Sub-Tropical Rambles,' tells of a man in the Mauritius who was stung on the sole of his foot by a mud-laff; the foot and leg swelled enormously, and after some days the wound sloughed, leaving a large hole. It was more than two months before the man was able to leave the hospital."



FRED'S PRIZE—THE MUD-LAFF.

CHAPTER VIII.

SHOOTING BATS AND IGUANAS.—VISITING THE HOT SPRINGS.

THERE were two boats to-day instead of three, and the course was laid for an island three or four miles away. On the way thither their host intimated that they were to have a kind of sport they had never seen in America, and perhaps had never heard of. It might be a disappointment, as it did not require much skill, but in any event it would be a novelty. "Wait till we get there," said he, "and then you will know what it is.

"If we have time," he continued, "I will show you a very curious place called the Lake of Socolme."

"Is it beyond this lake?" one of the boys asked, as he glanced around, and concluded that the question of time was very doubtful.

"No, it is in this lake," was the reply, "or rather it is in an island of the lake. Socolme is an island about three miles in circumference, and is supposed to be the top of an extinct volcano with a lake or pond in its crater. The island is two or three hundred feet high, and the pond is in the centre of it, and at a higher elevation than the great lake. The pond has been sounded and found to be three hundred feet in depth, while there are not more than seventy-five feet of water in any part of the lake.

"The curious thing about Socolme is the vast numbers of crocodiles that inhabit it. They are so numerous, and so dangerous, that the Indians will not go there alone, and it is with the greatest difficulty that we can persuade them to accompany us when we make an excursion there. Sometimes hundreds of these reptiles are visible, and they are of the largest size; what it is that keeps them there I cannot say, but presume they find something specially attractive in the depth of the water.

"The birds have found that the Indians do not molest them on Socolme, and so they go there to lay their eggs. Every tree on the shores of the little lake is white with guano, and the limbs are crowded with nests which are filled with eggs and birds during the breeding season.

"On the shore opposite Socolme there are several springs of hot water, and the place is generally known as 'Los Banos,' or 'The Baths.' There are plenty of wild pigeons there, and any one who is fond of shooting pigeons can have all the sport he wants.

"A few miles farther to the east is a sand-bank, where the turtles go to lay their eggs; unfortunately it is not the season for them now, or I would take you there. The turtles come up in the night to deposit their eggs, and return to the water before sunrise, so that when the natives want any of the turtles they must hunt them by moonlight; but the eggs are a different matter, and when the Indians know where they are, they can find them at their leisure."

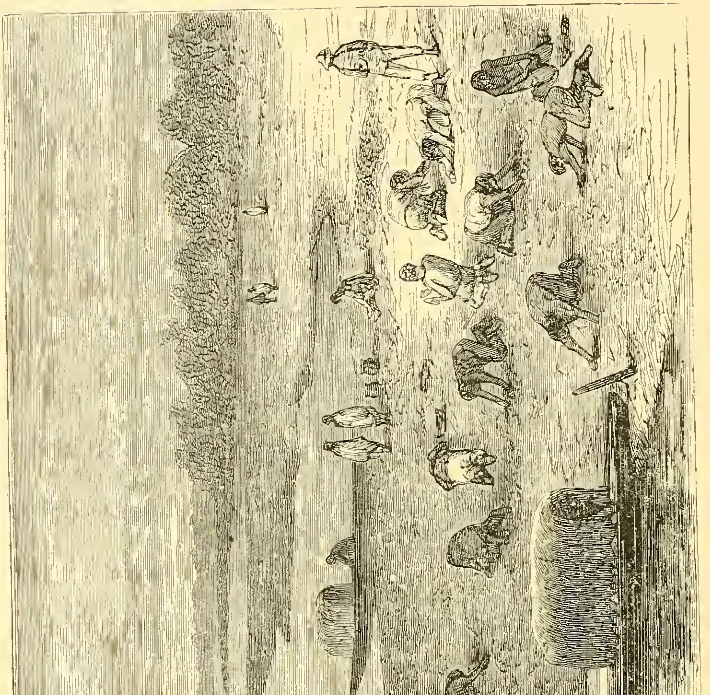
Fred suggested that if the turtle covered his eggs over, it must require considerable skill to find a nest.

"You are quite right," was the reply. "The Indians follow the tracks of the turtles in the sand, but there are so many of them that it is no easy matter. The turtle digs a trench in the sand about two feet deep with his broad paws, and then deposits the eggs and covers them. He smooths the sand over with his shell and goes away, and if he is favored by a shower just after his departure, you might think he had concealed his nest completely. But the Indian knows how to discover the deposit; he takes a blunt stick and thrusts it into the sand, and wherever it goes in easily he begins to dig with his hands. After a little practice he becomes so expert that he never makes a mistake, but invariably comes upon eggs. They have a thin but tough shell, and the yolk contains a great deal of oil. The natives eat these eggs raw, but they are too rank for the European stomach, though we use some of them in making omelets and cakes. The Indians crush them in broad trays, and collect the oil which soon rises to the top. Turtle oil is quite an article of commerce."

Frank asked how many eggs were usually found in a nest.

"The number varies a good deal," was the response. "I have seen a hundred and forty taken out of one nest, but usually there are not far from a hundred. It is a curious spectacle to see a dozen or more natives digging away at the sand, some lying at full length, some on their knees, and others bearing baskets full of eggs to the boats tied up to the bank."

Conversation on various topics consumed the time till the party reached one of the islands, and proceeded to land. There were several eagles flying in circles high above the boats, and keeping up a perpetual screaming as if in protest at the coming of the visitors. The Doctor "drew a bead" on one of them with his Remington rifle, and brought him



INDIANS HUNTING TURTLES' EGGS.

to the ground—or rather to the lake, where one of the natives paddled out and secured the prize. He was a fine fellow, measuring nearly six feet from tip to tip of his extended wings. Frank and Fred wished to try their skill, and brought up the guns they had used the day before, but the Doctor told them nothing but a rifle could have any effect on these birds, owing to the height at which they were flying.

Two or three eagles were shot by the Doctor and his host; the boys each tried to bring down one of the huge birds, but did not succeed, as they had not practised with the rifle, and consequently were not expert in using it. By-and-by the excitement of shooting eagles came to an end, and the party started for the novel sport that had been promised.

A few hundred yards from the landing-place there was a clump of trees, to which the attention of the boys was directed; Frank remarked that the foliage was the darkest he had ever seen on a tree, and Fred suggested that there must have been a shower of ink not long ago, or perhaps the trees grew out of a bed of chimney-soot. Other reasons were given for the blackness of the trees—some of them serious and others jocular—but none were correct.

The Doctor raised his rifle and fired at one of the trees. The game fell to the ground, and Frank ran forward to pick it up.

"Why, it's a bat!" he exclaimed, as he held the prize by an extended wing, "and a large one too."

"Yes," answered the Doctor, "it belongs to the family of vampires; the naturalists call it a *roussette*, and its genus is *pteropus*. Its popular name is flying-fox, and the natives find it good eating, though Europeans will not generally touch it. Its fur, you perceive, is soft, and it is often used for the linings of gloves, but in a tropical climate like this it is not of a good quality."

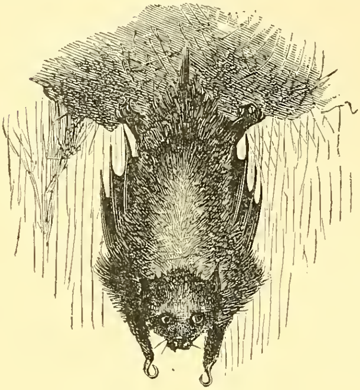
"But what are they doing here on this island?" Fred asked. "And look, the trees are covered with them, all hanging down by their claws and apparently asleep."

"Yes," said Mr. Segovia, "they are asleep, and you may shoot as many of them as you like. What you supposed to be black leaves were in reality bats, and they take the place of the foliage they have destroyed."

"But do they live here all the time?" inquired Frank. "If they do, I should think they would kill the trees by depriving them of the power of growing."

"No," was the reply, "they only stay here during the period of the eastern monsoon. They sleep all day, and go out at night in search of food, and with the rising of the sun, or before it, they are back again.

When the eastern monsoon stops, and the western one begins, the bats leave these islands and go away to the east coast of Luzon, and then the trees have a chance to grow. With the return of the eastern monsoon we have the bats again, and then comes our sport in shooting them."



HOW A BAT SLEEPS.

The guns were made ready, and each of the party selected a tree for his own shooting. They loaded and fired as fast as possible for half an hour or more, and every shot brought down at least one bat. At the end of that time the bats were thoroughly alarmed by the noise of the shooting, and flew around in a dense crowd. More of them were killed while circling in the air, till finally they went off in a body, and alighted on a neighboring island where nobody cared to pursue them.

Then the sport changed to shooting iguanas, a species of lizard five or six feet long, that lives among the rocks near the shore of the lake. Several of these were killed; but, as there was no need of skill, our friends were soon satisfied, and concluded not to slaughter any more. When the bats and iguanas that had been shot were piled together at tne landing-place, one of the boys very naturally asked, "What will we do with them?"

THE IGUANA.

"As to that," said their host, "it is a question easily answered; we'll give them to our native boatmen, who will be very glad to have such a present. The flesh of both bat and iguana is delicate, but Europeans have a prejudice against it, and so we do not put it on our tables as a regular article of food. If you would like to try it we will have some prepared for dinner, and if you can lay aside prejudice, I am sure you will find it excellent."

The boys concluded they would not venture on an experiment, although they frankly acknowledged that nothing but prejudice kept them

from doing so. "The bat," said Fred, "is what we may call a clean feeder, and so is the iguana, if what I have read of their habits is correct; but prejudice is against them, and we will let them alone."

"Yes," responded Frank, continuing on the topic, "none of us have any prejudice against pork, yet the hog is the farthest possible from being a model of neatness in his habits. We would not eat dog or cat, but there is no more dainty animal in the world than a well-reared terrier or house-tabby."

"On this point," said their host, "I can tell you a good story. Mr. La Gironiere, who formerly owned Jala-jala, used to bring his guests over here for the same sport you have been enjoying. One day he had in his party a couple of Americans, and on the way back one of them said they would like to try the flesh of the bat and the iguana. Thinking they were in earnest, the host told his cook to make a curry of iguana, and a ragout, or stew, of bat, and serve them for dinner. The cook did as he was ordered, and the first dish on the table was the curry. Everybody ate heartily, and pronounced the curry excellent; and then the host ventured to remark, 'You see the flesh of the iguana is very delicate.'

PAUL P. DE LA GIRONIERE.

"This was enough. Every plate was pushed aside, including that of the American who had made the proposal, and not a mouthful more of curry could any one eat. Some even fled from the table, and could not be prevailed on to return until the strange dish had been removed, and the order for the bat stew was countermanded. You see what prejudice is; they all thought the curry delicious till they knew what it was made of, and probably they would have said the same of the ragout."

The game was given to the Indians to do what they pleased with it, and then the party started on a ramble over the island. Several birds were shot on the farther shore, where there was quite a stretch of sand,

L. of C.

and Doctor Bronson managed to bring down another eagle. Then they went back to the landing-place and breakfasted, and after breakfast it was proposed to visit the hot baths that have been previously mentioned. Of

THE GIRL WITH THE LONG HAIR.

course the proposal was accepted, and Socolme with its numerous crocodiles was left to itself.

The breeze was favorable, and in due time the hot baths were reached. Not far from the baths was an Indian village, and our friends paid it a visit; while they were strolling about the place Frank made a discovery, and quickly called the attention of the Doctor and Fred.

A native girl was sitting in a hammock, with one foot hanging over the side; she eyed the strangers with some curiosity, but did not show half as much as they did in looking at her. The particular object of their attention was her hair, which hung to the ground on each side of the hammock, and would doubtless have reached to her feet if she had stood erect. The hair was jet black, and apparently fine; though of this latter condition the youths could not speak positively.

The Doctor told the boys that the Indians of the Philippines were famous for fine heads of hair, and they are naturally proud of them. He said there was a story, of very doubtful veracity, that there is a tribe of Indians in one of the islands of the group that always choose their queen by the length of her hair. When a queen dies every woman in the tribe

falls to measuring her hair; and the one with the longest measurement, even though it be only a hair-breadth greater than that of any other, is proclaimed queen.

"Perhaps, then," said one of the boys, "this girl here is endeavoring to qualify herself to be queen one of these days, and wear the royal crown. It is not likely that any one else can boast of longer hair than she has."

When their curiosity was satisfied they moved on, and a short distance farther came to where a woman was weaving cloth. It was the most primitive loom the boys had ever seen, and they stopped for several minutes to look at it. The Doctor told them that the material which she was weaving was abaca, or vegetable silk; and, while they were examining the loom, he explained how the fibre was grown and prepared.

"The abaca," he said, "is grown on the mountain slopes, and thrives best in a volcanic soil. It belongs to the banana family, and produces an abundance of seed; but the seed is not used for planting, owing to the long time required for it to grow up to be useful. The plants are propagated from cuttings taken from the base of the old trunk and set in the earth, where they soon take root and begin to grow. For the first two years much attention is needed to keep down the weeds which threaten to choke the plants; but by the third year the plant puts out its own broad leaves, and is able to take care of itself with an occasional slight weeding.

"The vegetable silk is largely exported to Europe and America under the name of Manilla hemp; but it is only the coarser quality that goes to market. The finer kinds are woven by the natives, as you now see, and some of the cloth that they produce is as delicate as cambric or muslin. It is surprising what these people are able to accomplish with their rude implements and machinery.

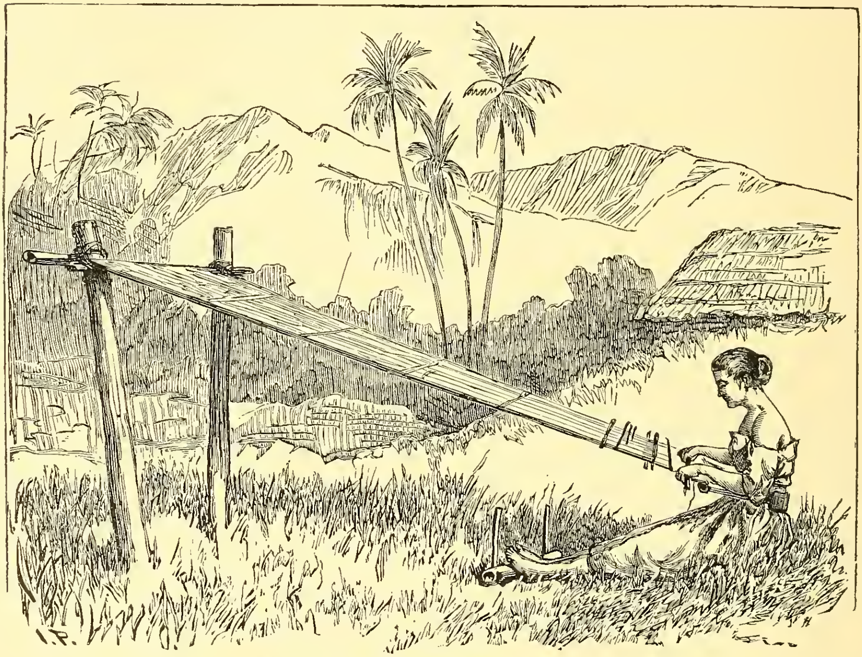
"No less than twelve varieties of abaca are cultivated; and it has been found that while it grows luxuriantly in some localities, it will not live at all in others. It takes from three to four years for the plant to produce fibre of a proper quality; at first only one stalk is cut from each bush, but later on the new branches grow so fast that they can be cut every eight or ten weeks. A good plantation will yield a ton and a half to the acre, and sometimes as high as two tons have been gathered.

"Now, let us look at the loom where the weaving is going on. Perhaps Frank had better take down a description of it."

Frank brought out his note-book and wrote as follows, partly from

his own observation, and partly from the dictation of Doctor Bronson and Fred:

"The upper end consists of a piece of bamboo fastened between two posts, and the end of the web is tied to it. The weaver sits on the ground, and holds the lower end of the web by means of a wooden bow that passes across her back; she places her feet against a couple of pegs set in the ground, and by leaning backward draws the web out straight. The shuttle consists of a netting-needle a little longer than the width



A PRIMITIVE LOOM IN THE PHILIPPINE ISLANDS.

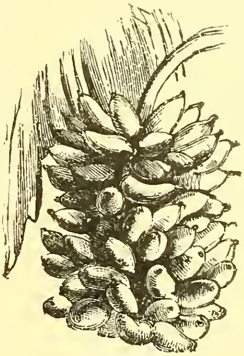
of the web, and, after the thread has been passed through the web, it is driven to its place with a wooden comb. A lath of hard wood serves as a trestle, and is turned on its edge after every stroke.

"With this simple apparatus many thousand yards of cloth are woven in the Philippine Islands every year; it is the cloth almost universally worn by the natives, and it is wonderful to what a degree of fineness it is brought when we remember the rudeness of the loom."

When they had satisfied their curiosity concerning the weaving process they continued their walk, and soon found themselves outside the vil-

lage, and in the midst of a banana-field. It was Fred's turn now to write something, and accordingly he set down a brief description of the banana plant as he saw it in the Philippine Islands:

"The trunk of the banana plant is formed of leaves placed one above another, and cannot properly be called a tree, as it does not contain any woody fibre. It rises from eight to twelve feet high, and spreads out near the top into leaves five or six feet long. The flower rises from the middle of these leaves, and also the spike that holds the fruit; the latter is called the 'regime,' and sometimes has a hundred or more bananas clinging to it.


THE BANANA.

"Before the fruit is ripe the spike is cut, and soon becomes fit for use. The part of the plant which is in the earth is a sort of large root, and from it there will be successively thirty or more shoots, each one containing its bunch of fruit. As the shoots are of different ages, a single plant contains fruit in all conditions of growth, some ripening while other bunches are just beginning to form. Consequently, every two or three weeks throughout the year a bunch may be cut, and it does not require a very large field to support a man. A good many people eat little else than rice and bananas, and if a man is very poor, he can get along with wild bananas that he gathers in the forest, though he is liable to find it monotonous living."

CHAPTER IX.

AN EXCURSION AMONG THE MOUNTAINS.—RETURN TO MANILLA.—AN EARTHQUAKE, AND WHAT CAME OF IT.

OUR friends were back from the hot springs in good time in the afternoon, and the next day they proceeded with their own boat to make farther excursions in Luzon. We will let Frank and Fred tell the story, which they did in a letter that left Manilla by the next mail.

After describing the experiences already recorded, the letter ran as follows:

"When we left Jala-jala we went farther up the lake and over to the other side, so as to make a journey in the mountains, and among the native inhabitants. Mr. Segovia said that the farther we went into the interior the wilder and more primitive would we find the people, but that their manners and customs were generally much alike. The Spanish officials are scattered all over the country, and every town and village has its alcalde or mayor, who is elected by the people, but must be approved by the governor. The larger towns and villages have Spanish alcaldes, but in the smaller places the officials are native, and sometimes very ignorant. An alcalde, whether Spanish or native, considers himself a very important personage, and when dressed in his best clothes and out for a walk his appearance is quite comical.

"At the first village where we landed, on the other side of the lake, the alcalde and his constable came to meet us, as they had heard the day before that we were coming, through a message sent by our guide. The alcalde was a short, stout man, and carried a gold-headed cane, which was his staff of office; he wore his shirt outside his trousers, after the custom of the country, and he had a dress-coat over it, evidently made for him years ago when he was thinner. He wore a bell-crowned hat, tilted on one side, like some of the men you see on Broadway, and he had wooden shoes on his stockingless feet. Behind him came the constable, who was a great contrast to his master in shape and form; he was thin as a fishing-rod, and carried his hat in his hand, while his feet were quite bare. One

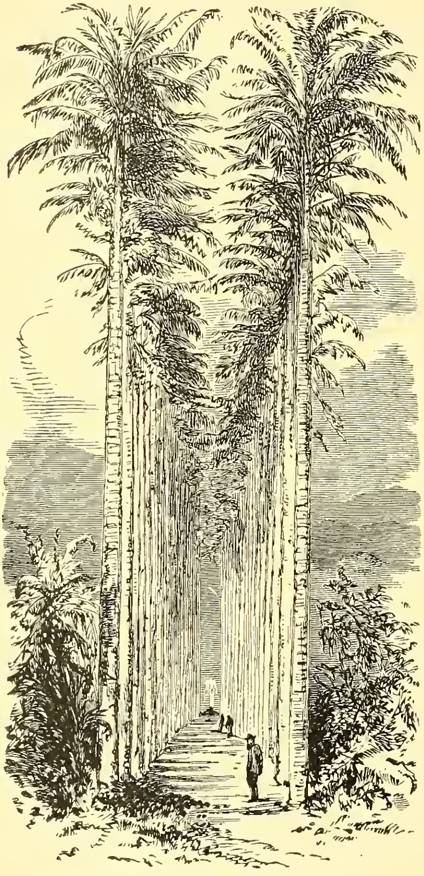
of us made a rough sketch of the pair while they were talking with Mr. Segovia and the Doctor.

"We are told that the Spanish alcaldes generally get rich in a few years, if they happen to be in good districts; but there are some that go away as poor as they came. The governor rewards his friends by securing their election to good places where they may make money. This may seem very strange to you at home, but you must remember that we are in Luzon, on the other side of the world from America; of course nothing like it was ever heard of in the United States.

AN ALCALDE AND HIS CONSTABLE.

"We engaged saddle-horses for an excursion among the mountains, and some porters to carry our baggage; the latter started off in advance, and we were to overtake them at a village where we would pass the night. There was no trouble in getting the horses, as their owners were quite willing to hire them out; but the engagement of the porters was not so easy. The people are not fond of hard work, and you may be sure it is no joke to carry ever so small a parcel in this hot climate. The

mayor arranged it for us and selected the men, and he also fixed the price for us to pay. When they were assigned to the work, each man picked up the lightest thing he could find—one an umbrella, and another a field-glass that didn't weigh a pound, while a third seized a little dressing-case belonging to Mr. Segovia. They were about to move off with these loads when the alcalde called them back, and made them distribute the baggage evenly. When it was properly arranged, they had about twenty-five pounds apiece, which was not at all too much.



AN AVENUE OF PALM-TREES.

"At first the road was through a level country, and among fields of rice, tobacco, and other things that grow on the lowlands. We saw great numbers of palm-trees, and at one place there was quite a long avenue of them which somebody had set out when they were small, and allowed them to grow. It is difficult to say how many varieties of these trees we saw in the day's journey, but there must have been a dozen at least. The most useful of them was the sugar-palm; its name indicates its character, as it is cultivated for the sugar it produces, very much as the maple is cultivated in some parts of the United States and Canada.

"Perhaps you would like to know how they make sugar from a palm-tree. Well, this is the way they do it:

"The tree is tapped by cutting a deep notch in it seven or eight feet from the top, and attaching a section of bamboo to serve as a bucket to catch the sap or juice. As fast as the bamboos fill up they must be changed, and a good tree will yield eight or ten quarts daily for about six weeks. The juice is then boiled down, just as the juice of the sugar-cane or maple-tree is boiled, and is finally granulated into a coarse brown sugar.

"The juice of another variety of the tree is used for making palm-brandy, and it is said that thirty-six quarts of the juice will make six quarts of spirit. The buds of the tree are cut before they have time to blossom, and the sap that runs from them is caught in bamboos, just as in the case of the other kind of tree. The juice is then fermented into wine, which is afterward distilled into brandy. The government used to have the monopoly of the business, and though private individuals could make all they wished, they were obliged to sell to the government at a fixed price. The contractors made large profits on the business, and you may be sure the government did not lose anything. But so much of the proceeds of the business were consumed in the expense of gathering, that the government a few years ago gave up the monopoly, and allowed the manufacturers to pay taxes on what they sold, just as the manufacturers of spirits do in other countries.

"As we went back from the lake the country became more and more hilly, and when we stopped at night we were close to the mountains. The air seemed cooler, because we had been constantly ascending, but we were surrounded with tropical trees quite as much as in the lower country. Just as we came into the village where we were to spend the night, our attention was called to a native clock, and we stopped to have a look at it.

"You never saw such a clock in America, or rather such a bell, for it was really a bell for sounding the hours, and not a timepiece.

"A log that had been hollowed out was suspended under a tree by one end, through which a lot of ropes were passed. This was the bell, and it was struck with a smaller log suspended near it; a watchman came every hour from the house of the priest, where there was a real clock that showed the time. Of course such a rude apparatus as this could not be exact, as the watchman is not very careful. Sometimes he makes the hours only fifteen minutes long, and when he has struck all of them, he goes home and has a comfortable rest. In this way he can make it noon before it is nine o'clock in the morning; in the middle of the day there is nothing to do, and he will stay away three or four hours without coming near the timepiece at all.

"Some children coming from school stopped to look at us while we were looking at the clock, and this made us ask about the schools among the natives. We were told that there were schools in all the villages; the school-master is paid by the government, and generally receives about two dollars a month, without board or lodging. If the village is a large one, he has three dollars and a half a month, and must pay for an as-

sistant out of his own pocket; the assistant is usually a woman, who teaches the younger children, and her wages are one dollar a month, with a little present at the end of the year. The schools are under the super-

A VILLAGE CLOCK.

vision of the priests of the districts, and about half the children do not go to school at all. They teach reading and writing, and a little arithmetic; the Indians learn arithmetic very easily, and each scholar has a pile of shells before him, which he counts over and over again when he is learning the numerals. With the same shells he studies addition, subtraction, multiplication, and division, by separating them into little heaps, and it is said to be very amusing to see the scholars at their tasks. They learn to write on a table covered with sand, and as fast as they have written an exercise, the sand is smoothed over for another. This odd sort of copy-book cannot be carried home at night; and, in fact, they don't have more than two or three books altogether. The reading-book

is the "Christian Doctrine," so that the scholars get their religious education along with anything else they are learning. They remember their religion longer than they do their arithmetic, as they soon forget all else that they have learned, unless they go into employments requiring a knowledge of reading and writing.

"The next morning we went farther up into the interior, and came in sight of a mountain that looked like a great pile of ashes, and had a little wreath of smoke issuing from near the top. Our guide told us it was a volcano that had an eruption a few years before, but was now very quiet; what we said looked like ashes was the cone of the mountain covered with the volcanic ashes that had been thrown up. We wanted to climb the mountain, but there wasn't time; and, besides, it came on to rain, and we had to stop. The rain kept up through the night and all the next day, and we concluded to return to Manilla as soon as we could,

A VOLCANO IN REPOSE.

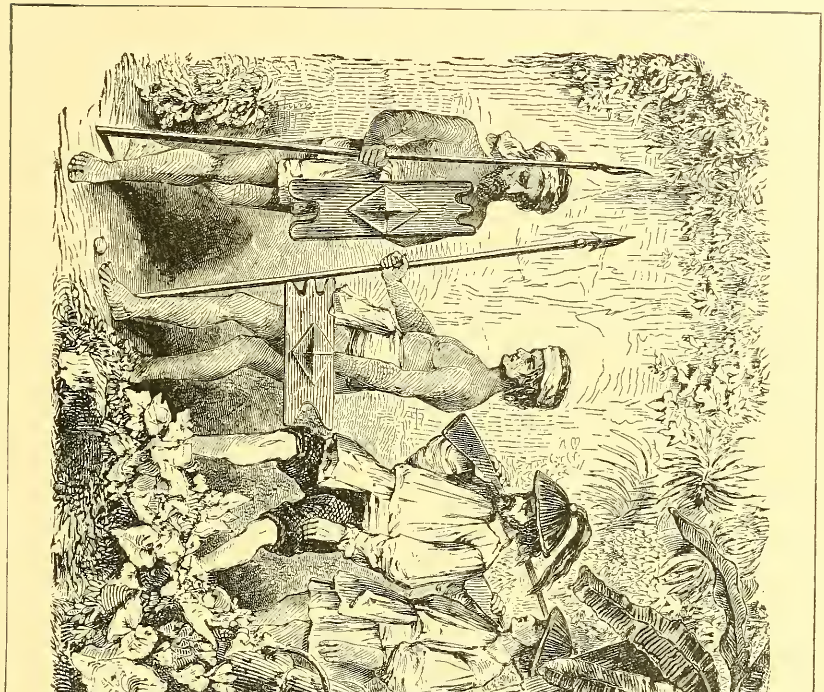
and get ready to move on somewhere else. Perhaps you will want to know what we would have seen if we had gone across the island, and all through it.

"We should have been some time among the mountains, as there is a chain of them running the whole length of Luzon; many of these mountains are volcanic, and some of them do a good deal of smoking. Perhaps we should have felt the earth trembling under us suddenly, and continuing to tremble for several seconds, as it is said to do here very often; we have experienced two or three little earthquakes, and are in no hurry to make the acquaintance of a large one, though we are liable to do so at any moment.

"Perhaps we could have gone to the gold mines; but it is doubtful, as the government is not willing to let strangers see them, and they even put a good many difficulties in the way of Spaniards who want to go there. It is certain there is a considerable area of country in Luzon containing gold, and lumps have been found worth two or three hundred dollars. Several mines have been opened, but they have not paid the men who own the stock, though it is hinted that the managers on the ground have done well. Our Spanish friend asked if this was not the case sometimes in America; but we told him we had never owned any gold mines, and consequently could not give him any precise information. He laughed, and then talked about something else, without again mentioning gold-mines.

INDIANS OF THE INTERIOR.

"Then we might have seen mines of lead, copper, and other metals; and we should have travelled through dense forests, where not even a horse can go. If we had undertaken such a journey, we should have been escorted by natives with spears and shields, as they have very little knowledge of fire-arms. The Spaniards are unwilling to let them have any weapons with which they could fight; and, as they have no noxious animals to contend with, there is no occasion for them to be armed. There are no tigers, lions, or similar beasts of prey in the Philippines; the wild animals have already been mentioned, and include the boar and buffalo, which are not dangerous as long as you let them alone.



TRAVELLING THROUGH THE FOREST IN LUZON.

"Well, we'll give one jump right back to Manilla, and get ready to leave. Here we are, safe and sound, though somewhat tired from being cramped up in a boat, and sore from riding on horseback and walking over rough ground. We have seen a great many new things, and had experiences that were new to us, and we have—"

Here the writing of the letter was interrupted by a violent shaking of the table at which the boys were seated; Frank was thrown from his chair, and Fred saved himself from going over by grasping the table with both hands, and resting his weight upon it. The Doctor was lying on a

STREET SCENE DURING AN EARTHQUAKE.

lounge a few feet away, and engaged in the perusal of a parcel of papers just received from New York; his reading was instantly suspended, and he came to his feet at the very moment Frank fell to the floor.

"An earthquake! an earthquake!" said Frank.

"An earthquake, certainly," answered Fred; "there's no mistaking it."

The Doctor said not a word, but seized his hat and started for the street, followed by both the boys. By the time they reached there the streets were crowded with people in the greatest state of alarm; many

were on their knees in prayer, and in a few moments a priest appeared carrying a crucifix, to which many eyes were turned. Tiles were falling from the roofs, walls were crashing into heaps of ruins, seams opened in the earth, men and women were shouting and screaming in terror, and what had been only a few minutes before a peaceful and sleepy city, was now a scene of wild excitement and desolation.

Our friends sought the middle of the street and there stopped, the Doctor assuring the boys that they ought to be as far as possible from the falling walls and tiles. "It often happens," said he, "that an earthquake shock is followed by another a few minutes later, and sometimes the second is more severe than the first. We'll wait here awhile, and then be guided by the movements of the inhabitants; if they go back to their houses we can return to the hotel."

The shock was not renewed, and after a while the alarm began to subside, but very slowly; word came that the cathedral had been thrown down, but luckily no one had been injured, as it was not the hour of service, and the custodians of the place were outside the doors at the moment of the shock. Several of the government buildings were destroyed, and it was thought many people had been crushed to death by the falling walls. It was impossible at that time to estimate the damage, but it was known to be very great.

The Doctor suggested that they would walk to the cathedral and see the extent of the ruin, and so the trio proceeded there. Every few steps they met dozens of people rushing wildly about in spite of the efforts of others to calm them. As they neared the cathedral the crowd became more and more dense, but happily less excited; it was a matter of some difficulty to get near the ruins, but by patience and perseverance Doctor Bronson and the youths worked their way to the front of the assemblage, and close up to the heap of brick and stone.

A part of the front had fallen, and with it one of the sides; but the rest of the walls remained standing, though there were great seams here and there that showed the work was seriously weakened, and would need to be torn down if it did not fall. The roof was crushed, owing to the loss of support on one side, and the rafters and the covering boards lay in a confused mass on the floor.

It began to grow dark, as the earthquake occurred a little before sunset, and our friends deemed it best to return to the hotel. They reached it in safety, and found it had not suffered greatly by the shaking it had received; like many of the houses of Manilla it was only one story in height, and the roof was lightly constructed, partly because the climate

did not require a heavy one, and partly with a view to avoiding injury in the frequent disturbances to which Luzon is subject. The walls were cracked in a few places, and some of the tiles had been dislodged; but the proprietor thought that for twenty dollars he could repair all the damages.

Very naturally the conversation during the evening was devoted to earthquakes, and the boys accumulated a considerable stock of information on the subject. Fred turned to Mr. Jagor's book on the Philippines, and found that a great many earthquakes had been recorded in Manilla, the most fatal occurring in the years 1601, 1610, 1645, 1658, 1675, 1796, 1824, 1852, and 1863.* On the third of June, 1863, at thirty-one minutes past seven in the evening, after a day of tremendous heat, and while all Manilla was busy with preparations for a religious festival, the ground suddenly rocked to and fro with great violence; the firmest buildings reeled visibly, walls crumbled, and beams snapped in two. The shock lasted half a minute; but this little interval of time was enough to change the whole city into a mass of ruins, and to bury alive hundreds of its inhabitants. The cathedral, the barracks, the governor's residence, and all the public buildings were entirely destroyed; 400 persons were killed, 2000 were wounded, and the loss in money was estimated at $8,000,000. Forty-six public and 570 private buildings were thrown down, and all the houses that remained standing were more or less injured.

Frank asked the Doctor what was the cause of an earthquake, and whether the movements of the ground were always the same.

"The cause is difficult to get at," Doctor Bronson answered, "although the wisest men in all ages have studied the phenomenon, and endeavored to make a satisfactory theory for it. The ancient philosophers supposed that the winds became imprisoned in the earth, and, in their struggles to escape, gave rise to the upheaval of the land and the general convulsions. In the last century a French scientist contended that large quantities of bituminous and sulphurous matter became suddenly inflamed, and broke forth in violent fermentations. The still more modern theory is that the surface of the earth is only a thin crust over a mass of melted matter; that we live on the outside of a ball of liquid fire, which is liable to explode at any time, and put an end to us and all around. It is argued that the volcanoes now in activity are the outlets for this internal fire, and the

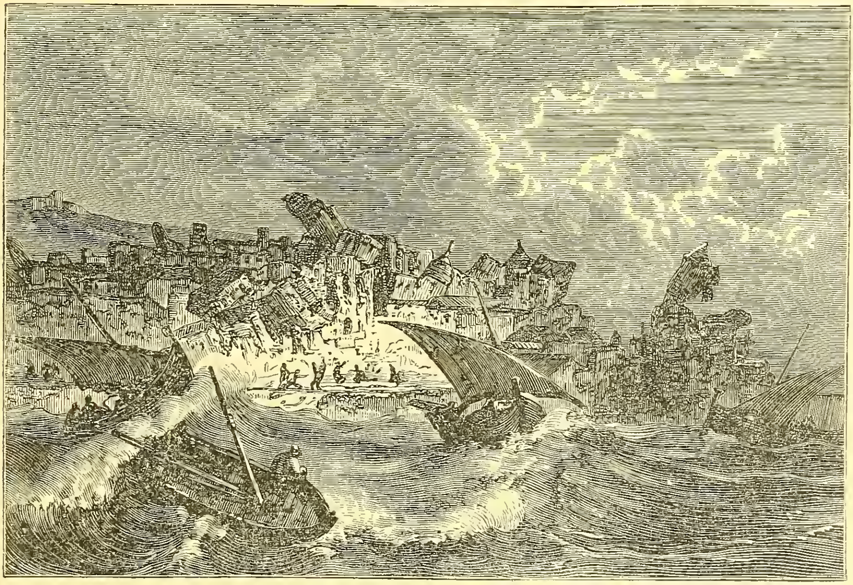
* "A severe earthquake occurred at Manilla in the latter part of 1880, throwing down the cathedral and other buildings, but the full details are not at hand.—*Author.*

occasional eruptions and earthquakes are the result of the fire seeking vent, in consequence of the clogging of the subterranean passages."

Frank thought the theory was not very comforting, and on the whole he preferred the older one. Fred agreed with him, and then the Doctor continued:

"The movements of the ground are not always the same in earthquakes; sometimes there will be only a single shock, or more frequently two about twenty seconds or even a minute apart, and again there will be a succession of shocks lasting for hours, or even days, at irregular intervals. The latter is oftener the case in South America than in other parts of the world; there the ground keeps up a rocking more or less continual for hours, and the later shocks are generally more violent than the earlier ones. Usually, however, the earthquake comes without warning, and is over in less than a minute, but in that space of time the destruction may be terrible.

"Sometimes the earthquake comes in the form of a blow of the sur-



DESTRUCTION OF MESSINA IN 1783.

face of the earth from beneath, and in this shape it is most fatal and destructive. The earth seems to rise into the air as though there was a great explosion beneath it; buildings are forced upward and fall in fragments, and whole villages and towns are tossed against the hills and

mountains in the vicinity, while men and animals are conveyed hundreds of yards away, either with or without the land on which they are standing. The great earthquake of 1783 in Southern Italy and Sicily, that destroyed Messina and other cities, was of this character. A peasant was

ITALIAN PEASANTS INGULFED BY CREVASSES.

carried from one part of a valley to another, together with the field where he was at work; and at another place people were hurled against the top and sides of a hill. Messina seemed to be lifted up in an instant of time, and then fell back again, burying thousands of people beneath the crumbling stones. There was no warning in any form; but the movement of the ground was accompanied by a roaring sound, which seemed to be far down in the earth. Ships were dashed against the shore, or overwhelmed with the huge waves that accompanied the earthquake, and the ground opened in many places in great cracks, that soon closed up again and swallowed those who happened to be caught in them.

"To show how complete was the destruction by that earthquake, we will consider the effects on the town of Terra Nova. It stood on an elevated plateau that had deep gorges on three sides of it. The shock of the earthquake shook the plateau to pieces, and it rolled down into the gorges, carrying houses and inhabitants with it. Men, women, and children were swallowed up, and so complete was the devastation, that noth

ing remained to show where the town had been. The ground continued to tremble at intervals for months after this great earthquake, but there were no shocks as severe as the first."

"Haven't I read somewhere," said one of the boys, "that the severest earthquakes are near the sea?"

"Quite possibly you have read it," the Doctor answered, "for such is the case. There seems to be some kind of relationship between the sea and volcanoes and earthquakes; the greatest and most active volcanoes are not far removed from the sea or ocean, and some are actually in it. Vesuvius and Etna rise from the edge of the Mediterranean, while nearly on a line between them we find Stromboli, which has been in active eruption for two thousand years. It is called the light-house of the Mediterranean, and is very useful to mariners, as it gives a flash of light at regular intervals of a few minutes, and can be seen at night from a great distance. It is directly in the track of steamers between Naples and Messina, and makes a most excellent landmark.

"There are volcanoes that have their craters under water—or rather there are submarine eruptions that would be in the form of volcanoes

A SUBMARINE ERUPTION.

if they were on land. I once saw one of these eruptions while going through the eastern part of the Mediterranean, near the Santorin Islands. There was a column of dense smoke rising from the water, and it could

be seen for miles; above it, and not very far up, was a cloud formed from this smoke, and it made a very noticeable contrast to the clouds on the horizon, which were tinged by the light of the setting sun. The air was filled with a smell of sulphur, and all around there were bubbles rising from the water as though the entire sea was impregnated with gas. We sailed quite near the place where the smoke was rising, and had an excellent view of it. When the eruption began there were thousands on thousands of fish killed by the sulphur, and for some days the people from the islands used to go out and get them by the boat-load.

"An effect of an earthquake occurring near the sea," Doctor Bronson continued, "is the tidal wave that causes a great part of the destruction."

Fred asked what was the difference between a tidal wave and an ordinary one.

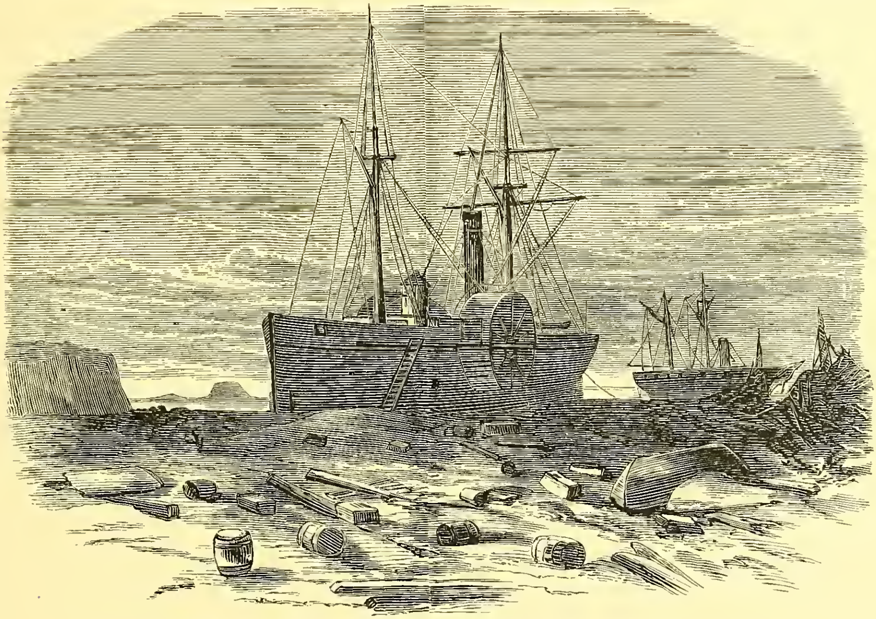
"The tide, as you know," the Doctor replied, "is the rising and falling of the waters of the ocean, and the seas and bays that extend from it. The ordinary wave is caused by the action of the wind blowing upon the flat surface of the water, while the tidal wave is not. In most instances where an earthquake occurs near the sea, there is a rush of water in a wave more or less great—first upon the land, and then away from it.

"In 1868 there was an earthquake on the west coast of South America, which furnishes an excellent example of what I have mentioned. At first the ground shook with a frightful noise; the whole chain of the mountains in the distance trembled like reeds in the wind, and it was apparent to every one that a frightful disturbance was at hand. The United States steamer *Wateree* was at anchor in the harbor of Arica, Peru, and one of her officers has since told me of the earthquake. He says the sea was perfectly calm at the time, and from the decks of the ship they could see the town shaking to pieces, and the hills that formed the harbor crumbling and throwing down great masses of rock.

"Several shocks followed, with little intervals, until two-thirds of Arica lay in ruins. The ships sent their boats ashore with surgeons to assist the wounded, but they had hardly landed before the water began to recede as though the tide was running out. It reached the point of low tide, and then began to rise again; and it kept on and on till it had reached a point thirty-four feet above high-water mark; it overflowed the town, poured through the streets, and flooded many of the houses. Then it flowed back again as fast as it had risen, and carried with it the custom-house, the residence of the English consul, and other buildings. Hundreds of the people had rushed to the mole or landing,

and as the water swept out through the harbor they were carried with it, and many of them were drowned.

"It was an awful spectacle, enough to terrify the bravest man that ever lived. Again the water rose to the same height as before, and again it fell, carrying with it houses, merchandise, and even a locomotive and some cars that were standing on the railway track. Altogether there were eleven of these waves, and then there was another shock of an earthquake, lasting about eight minutes, accompanied by repeated rolls of thunder and loud rumblings. This was followed by a rush of water



UNITED STATES WAR-STEAMER "WATEREE," STRANDED AT ARICA IN 1868.

from the ocean; it came on in a great wall breasted with foam, and poured over the land like an avalanche. Nothing could stand against it; the anchor-chains of the ships were snapped like threads, and the *Wateree* and three or four other ships in port were swept inland and stranded. The sea retired and left her high and dry about four hundred yards inland, in a position where it was impossible to get her afloat again; the same was the case with an English vessel and a Peruvian gun-boat; but the American store-ship *Fredonia* was less fortunate. She was knocked to pieces on the rocks, and all on board were lost; her captain and four of the crew were ashore at the time, and were saved."

Frank asked if there had ever been any earthquakes in the United States, and if so, whether they amounted to much.

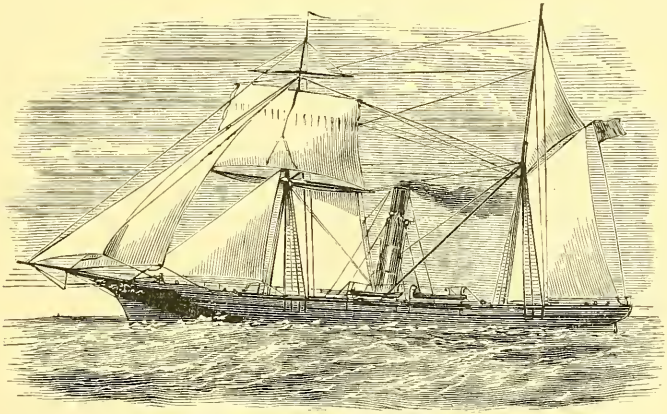
"The United States," the Doctor replied, "can hardly be included among the lands of the earthquake, though we are not by any means exempt from slight shocks. San Francisco has about a dozen disturbances in a year, but they rarely amount to much. Now and then the walls of some of the houses are cracked, and a few are thrown down; the people are more or less frightened, and many threaten to move away in consequence, but very few do so. East of the Rocky Mountains there have been a few shocks, the most violent being in a period of about fifteen months from December 16th, 1811. Philadelphia, Baltimore, Boston, New York, Washington, and other cities as far south as Savannah, were shaken on several occasions, and the earthquakes extended as far west as the Mississippi. New Madrid, in Missouri, seemed to be the centre of the disturbance. Fissures six or eight feet across were opened in the ground, and the land around New Madrid sunk about twelve feet below its former level. It is said that in some places the channel of the great river was changed, and lakes were formed where none had been before. But no lives were lost, and no great damage resulted from these earthquakes; and since that time we have had only an occasional slight trembling in some of the eastern States."

The clock indicated the hour of bedtime, and the talk about earthquakes and their mysteries came to an abrupt end.

CHAPTER X.

FROM MANILLA TO SINGAPORE, AND UP THE STRAITS OF MALACCA.—A DAY AT PULO PENANG.

THE next day was passed in closing up letters for the mail, viewing the destruction caused by the earthquake, and making preparations for leaving Manilla. The Doctor found, on visiting his banker's, that there was a steamer ready to start for Singapore on the following morning, and that she had accommodations for a few passengers. As she would suit their purposes exactly, he engaged places for the party, and in due



ON THE WAY TO SINGAPORE.

time they were at sea with the prow of their vessel directed toward the Straits of Malacca.

The anchor was dropped in the harbor of Singapore, and the steamer was quickly surrounded with the same swarm of boatmen that greeted our friends at the time of their first arrival. Some of the sharp-eyed fellows recognized Doctor Bronson and the youths, and claimed them as old acquaintances; the result was that only a few minutes were required for the negotiations that had taken so long on their first visit, and be-

fore the anchor had been down half an hour the trio were at the hotel with their baggage, and safely quartered in their rooms.*

"We are just in time," said the Doctor, "to catch the steamer that leaves here every week for Penang, Rangoon, and Calcutta. We will go in her as far as Rangoon, and have a peep at Burmah, and when we have done with that strange country we can go somewhere else."

The boys were delighted with the idea of going to Burmah, and declared themselves ready to leave on the instant; but they moderated their enthusiasm on learning that the steamer would not start till noon of the next day. A garri was called, and our friends drove to the banker's and the post-office, and their journey was rewarded with a fine parcel of letters and papers from home. They also called at the United States Consulate, and found that two or three letters had been addressed to them in care of the consul, and were safely kept by that gentleman, pending their return.

The news from home was entirely satisfactory. The families of Frank and Fred were greatly interested in the letters which the youths had sent describing their journey, and Miss Effie informed them that some of the letters had been given to the editor of their favorite newspaper, and so had found their way into print. "And the editor says," she added, "that they are good enough to make a book of, and when you get home you shall have one printed."

"What! we make a book!" exclaimed Fred, as Frank read the concluding sentence of Miss Effie's letter; "we could never do it in the world!"

"Why not?" Frank inquired. Evidently he thought the thing possible, perhaps for the reason that his sweetheart so regarded it.

"Because," Fred answered, "we don't write as the books do, or, at any rate, the most of them. We don't trouble ourselves about 'fine writing,' whatever that is, but go straight on and tell what we see and hear, the same as though we were sitting around the table at home and talking to our friends."

"Perhaps, after all," responded his cousin, "a book written in just that way wouldn't be so very bad. It's the kind of book I would prefer in reading about a country; and the fact that the editor prints our letters, shows that he's of my opinion. However, let's not trouble ourselves about the prospects of being book-writers, but go on and make our letters just as we've been making them."

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* The description of Singapore will be found in Part II. of "The Boy Travellers in the Far East," Chapters XXI. and XXII.

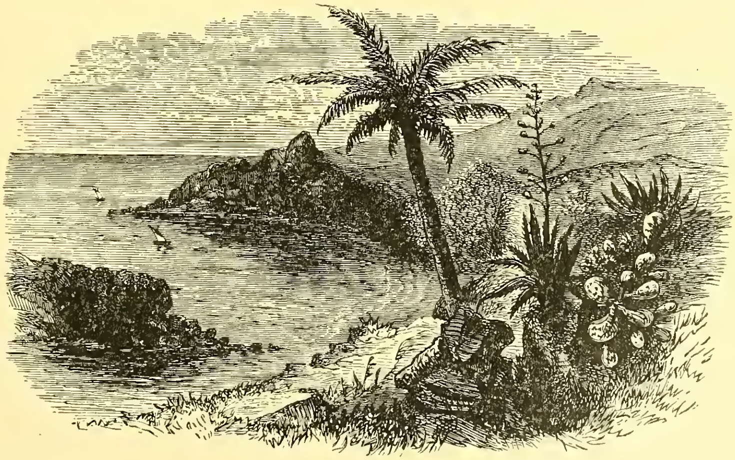
This was agreed to without further discussion, and the rest of the afternoon and the evening were devoted to reading and rereading letters and papers, and answering the most important of the missives.

At noon the next day they were steaming out of the harbor of Singapore, and entering the Straits of Malacca. On their right they had the Malay Peninsula stretching away as far as the eye could reach, while on their left were the densely-wooded shores of Sumatra. The air was warm, but its severity was tempered by a breeze that blew steadily in their faces as they steamed up the Straits, and seemed to be laden with the odor of spices and other tropical products. At least so thought Frank, but the Doctor assured him that the perfume was principally imaginary, as they were not yet where spices grow in profusion.

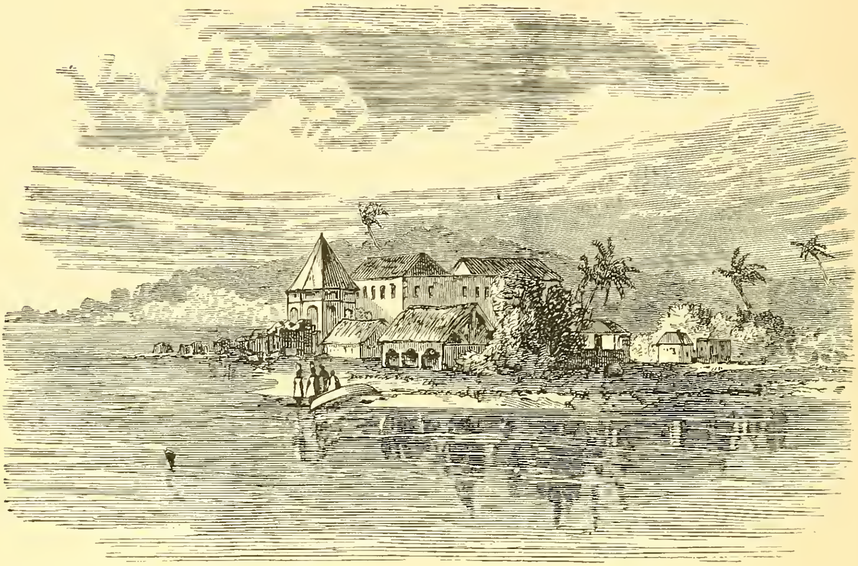
"The principal products of the region we are now passing," he explained, "are rice, sugar, pepper, and gambier, and none of those articles are famous for their odors, with the possible exception of pepper."

One of the boys asked what gambier was.

"Gambier," Doctor Bronson answered, "is a vegetable product that is largely used in dyeing and tanning, and is sometimes called Japan earth, for the reason that when it was first introduced it was supposed to be a species of earth, and to come from Japan. The tree or bush that produces it is of the same family as the Peruvian bark trees, and is a native of the East Indian Archipelago. The leaves and small shrubs are boiled in water, and a thick decoction is formed, which is finally poured into moulds and allowed to harden in the sun. A great quan-



BAY ON THE COAST OF SUMATRA.



COAST SCENE IN THE STRAITS OF MALACCA.

tity of gambier is produced in the Malay Peninsula, and if we went on shore we could visit the plantations where it is cultivated. They would remind us of the tea-plantations we saw in Java, as the bush is six or eight feet high, and looks not unlike the largest tea-shrubs."

Occasionally the steamer came quite near to the shore, and gave them charming glimpses of the scenery of the Malayan Peninsula. Everywhere there was an abundant vegetation, and the principal trees in the landscape were palms and their kindred. Villages were scattered here and there, and the captain of the steamer pointed out several establishments that he said were the residences of local chiefs, acting under the authority of the British Government. Several provinces along this part of the peninsula are under British control, though nominally ruled by their own sultans; as long as the sultan remains friendly to the English he is allowed to do pretty much as he pleases, but when he defies their authority, they speedily chastise him into obedience. Step by step the English have increased their power in this part of the world, and the movements on the political chess-board indicate that they will not be satisfied until they have secured all the territory between their Indian possessions and the frontier of China.

It is three hundred and ninety miles from Singapore to Penang, and as the steamer was not of the highest speed, she did not reach there until

the morning of the second day from the former port. In fact, the departure from Singapore had been timed so that they should arrive early in the morning, and have the day before them. Frank and Fred were on deck as the vessel swung into the harbor and came to anchor, and their eyes were busily engaged in contemplating the novel sights of the place. Doctor Bronson joined them a little later, and arranged with some boatmen to take them on shore as soon as breakfast was over. The boatmen were similar to those that surrounded the ship on their arrival at Singapore when they came from Siam—Klings, Chinese, Malays, and Arabs, with a sprinkling of negroes from the coast of Africa.

Penang is an island containing about a hundred square miles in all, and is separated from the main-land of the Malay peninsula by a strait from two to seven miles in width; it is sometimes called Prince of Wales Island, and by the natives is known as Pulo Penang, "pulo" being the Malay word for island. It is an important English possession, and was under the British flag long before Singapore. The history of its transfer to the English is somewhat romantic, and is told as follows:

It formerly belonged to the King or Sultan of Quedah, in Malacca, and was given by him to his daughter on the occasion of her marriage with Captain Light in 1785. Light was master of an English ship trading in the Straits, and a few years after his marriage he sold the island to the East India Company, on condition of being appointed governor. Afterward he negotiated with his father-in-law to give the English authority over the whole province of Quedah on payment of an annual subsidy; the sultan consented, and since that time the English have had complete possession.

We will let the boys tell the story of their sight-seeing in Penang during the day the ship remained there:

"We had no trouble in going ashore, as the boatmen were in competition with each other, and did not demand as high prices as at Singapore; for a dollar apiece we were brought on shore and taken back to the ship again at the end of the day, and the captain says we might have done better than that if we had bargained a little longer. The harbor is at the northern end of the strait that separates Penang from the main-land, and a very nice harbor it is. The capital is called Georgetown, and we are told that it has about 100,000 inhabitants; such a mixture you never saw in America, and we don't believe there are a dozen places in the world with such an odd population. The English are the masters, but there are not more than a thousand of them, not counting the garrison of soldiers; and there are a few Germans, French, Italians, Greeks, and other Europeans.

The rest are Malays, Chinese, Parsees, Klings, Bengalees, Arabs, and descendants of the early Portuguese settlers, together with a few other sorts and kinds 'too numerous to mention.'

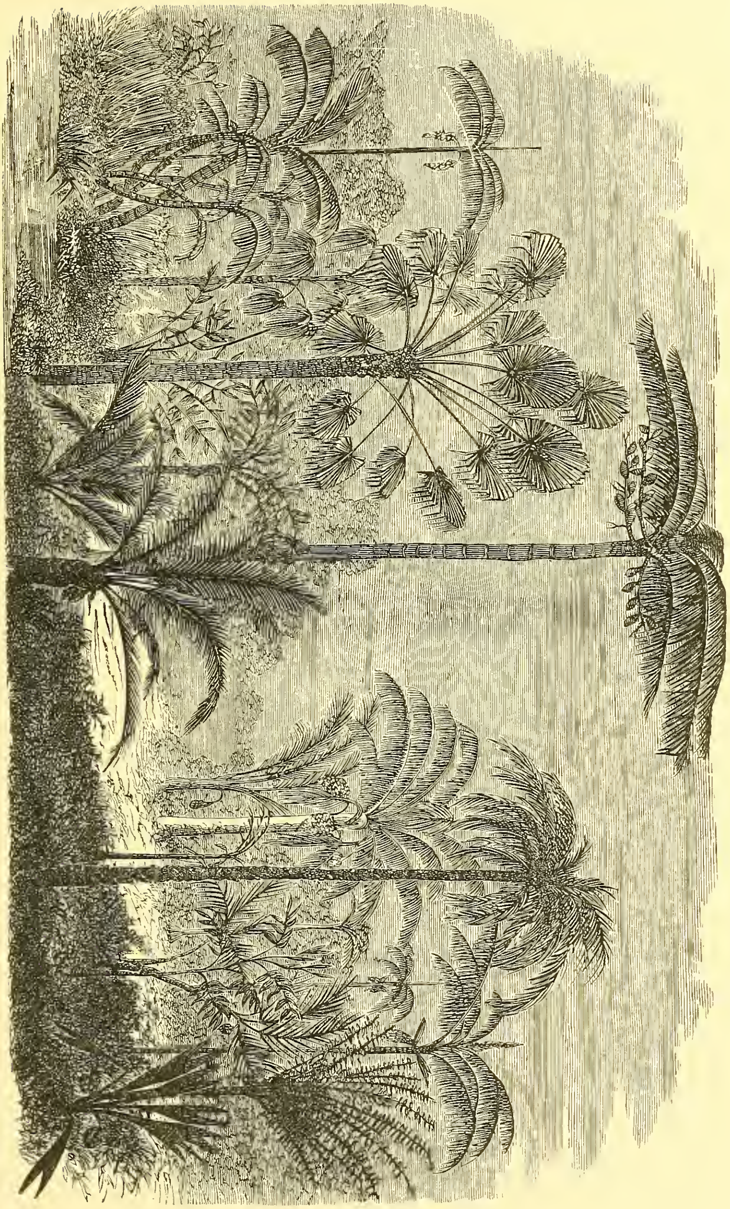
"We went through the town, but there was nothing very curious, after what we have seen and described to you in Singapore, and so we didn't take a long time about it. Each of us bought a Penang lawyer to take along. What do you suppose a Penang lawyer is?

"It is a cane, or walking-stick, with a straight stem; it has a root shaped like an egg, and forming a capital thing for the hand to grasp when the cane is finished and polished. These canes are called lawyers, because they are employed in settling disputes, and they certainly appear very useful for that purpose. One of them has been known to finish a discussion in a few seconds where an ordinary attorney would have taken an hour or two, and then would have been as far from the end of it as ever. The shillalah of the Irishman is something like it, but though it may be quite as effective, it is not half as handsome.

"Back of Georgetown the hills rise up nearly if not quite two thousand feet, and we were told that from the summit we could have a magnificent view. So we climbed up there, or rather we took a carriage to the foot of the hills, and then hired coolies with chairs to carry us the rest of the way. You cannot imagine a prettier excursion. The tropical trees, with their splendid foliage, shade the roads and paths, and sometimes you can go a mile or more without a ray of the sun striking you; at every turn there is a charming view of some kind or other, and you are constantly in sight of delightful summer-houses, where the merchants and professional residents of Penang have their homes. Higher and higher you go, and find the air becoming cooler as you ascend; when you are at the summit, you find the temperature ten or twenty degrees less than in Georgetown, and are glad that you brought along your light overcoat.

"As we stand at the top we look away to the main-land, and our guide says that in clear weather we can see ninety miles. The harbor with its shipping is in full view, and we have the whole panorama of the island and a long stretch of the Malay peninsula. We seem to be at the top of a great mound of trees, as the whole of the hills are thickly wooded. Farther down there are cleared spaces, especially in the valleys and plains, and we can see fields of rice, sugar-cane, and other products of the warm regions of the earth. On the upper parts of the hills the air is cool enough for the cultivation of European vegetables and flowers that will not grow in the vicinity of Georgetown.

"Where the forest is neglected, even for a few months, it soon be-



PALM-TREES IN PULO PENANG.

comes so overgrown with jungle that it is not easy to get through it; Doctor Bronson says it is a constant fight with nature to keep down the verdure, and if Penang were left to itself for a single year it would be all overgrown, as when Captain Light came here nearly a hundred years

A SUBURBAN COTTAGE.

ago. They tell a funny story of how Captain Light cleared away the jungle. He used to load cannon with silver dollars, and then fire them into the grass and bushes; then the Malays went to work to find the dollars, and, of course, they had to clear the ground before they could do so.

"Where we left our carriage there was a pretty water-fall, and we saw several little cascades on our journey. They are fed by water from the clouds that sweep over Penang, especially during the time of the southwest monsoon, and every owner of a bungalow on the mountain-side tries to have a stream of water going through his place, and if he can get a cascade in it, so much the better. Some of the residents have bathing-houses at the foot of their cascades, and they go there to get cool; a more delightful bath-house than one we saw it would be difficult to imagine. It had a floor of the solid rock of the island, and the water fell into a natural basin about four feet deep, and then ran off through a channel it had worn for itself in hundreds of years of patient work.

"Penang is full of insect life; in some places where we went there was such a buzzing of beetles and other humming things that our voices were drowned when we were twenty yards apart. It reminded us of the buzzing of machinery in a cotton factory, and there was more of it in the early part of the day than later on. There is one beetle they call 'the trumpeter,' that does not rest from making a noise from morning till night unless he is disturbed; when you go near a tree where he is he stops, and does not start again till you go away. There are lots and lots of butterflies, and they are of all sizes and colors; there is one called the 'Saturnia-atlas' that measures ten or twelve inches across the wings, but he is not very abundant, and the only one we saw was in a glass case in the office of a merchant we called on. We saw some beautiful humming-birds, and were told that there are several varieties of these tiny

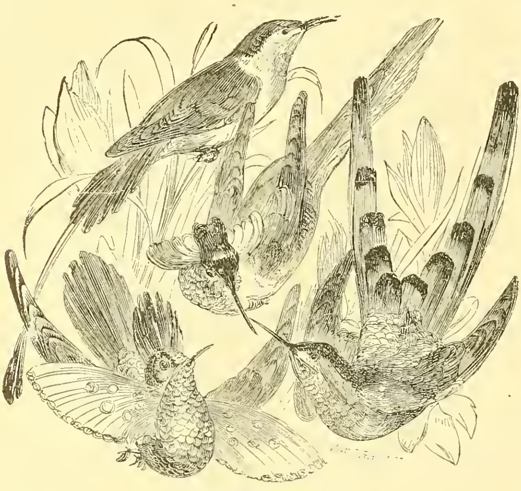
A PENANG BUTTERFLY.

things in Penang. There was a bright metallic lustre all over them, and when we looked at them in a certain light they glistened like a piece of burnished steel.

"How many kinds of trees there are in Penang it is difficult to say, but there are great numbers of them. Some of them are so heavy that they will sink in water; the Chinese and Malays take these woods to make anchors for their boats and junks, and they use the rattans and bamboos for cordage if they cannot afford twisted ropes. Many of the

plants live entirely on air, and we saw trees a foot in diameter growing on a rock where there wasn't a particle of soil. The moist air is what they thrive on, and they seem as well satisfied on a rock as in the richest soil.

"We asked how many fruits there were in Penang, and learned that they amounted to a hundred, and perhaps more. They have that delicious fruit, the mangosteen, that we told you about when in Java; and then they have the pineapple, custard-apple, pomegranate, mango, banana, and we don't know what else. We tried to eat the durian again, but couldn't get through it; and, as we are not to be very long in the land of this fruit, we don't think it worth our while to learn.



HUMMING-BIRDS.

"At night the air is full of fire-flies, and sometimes they are so brilliant that they resemble a torch-light procession just breaking up. Then the natives kindle fires under the trees to cook their meals; and, as you ride or walk along the roads, the scene is a curious one, as the figures of these dark-skinned people are brought into strong relief by the light.

"You see so many Chinese in Penang that you can easily believe you are in Shanghai or Hong-Kong. They are everywhere, and in all kinds of business, from the most important to the most humble; they are wholesale merchants of every name and kind, and they practise all the industries known to civilization. There are Chinese tailors, carpenters, shoemakers, blacksmiths, jewellers, cabinet-makers, and anything else you might name, besides a variety of trades you couldn't think of. Most of them work in shops, but there are many blacksmiths, cobblers, and others, who go from house to house, and carry their tools in baskets.

"The banks have Chinese clerks to keep the accounts and handle the money, and every European merchant in Penang has a comprador, the same as the merchants in Yokohama and Hong-Kong. You can hardly do anything in the way of buying or selling without coming in contact

with a Chinese, and even if you try to avoid them you cannot. In commercial matters the Chinese have full control, and the European merchants complain that their profits are very light owing to the sharp competition of their Oriental rivals. Every year the Chinese are gaining in business, while the Europeans are diminishing; and the gentleman who told us about them says it is only a question of time, and not a long time at that, before all the trade of Penang will be in the hands of the Chinese.

"They are not only in Georgetown, but all over the island of Penang, and on the main-land. Some of them have been here for many years, and either brought wives from China, or married Malay ones; they have no intention of going back to China but will end their days in Penang. The most of these old settlers are rich, and have fine houses, with magnificent gardens filled with fruits and flowers; but there are plenty of poor settlers who cultivate the soil, and live in modest huts among their market-gardens and pepper-fields. A large part of the agriculture of the island, and of the neighboring province on the main-land, is in Chinese hands, and if all the people of the Flowery Kingdom were driven out

A TRAVELLING BLACKSMITH.

of the Malay Peninsula and the adjacent islands, there wouldn't be much business left. Several times the Government has had trouble with them owing to their guilds and combinations; and on two or three occasions they have openly defied the laws, and refused to be bound by them. The garrisons of troops at Penang, Singapore, and other points are necessary to keep the Chinese in order, as no one can tell when they may make a serious disturbance.

"When we were at Manilla, we learned that the Chinese in the Philippine Islands were not always easy to control, and had twice broken into open insurrection. The first time was in 1603, when 23,000 Chinese were slaughtered by the Spanish troops and people; and the second was about fifty years later, when 25,000 were killed, and the rest, amounting to six or eight thousand, were banished. But others came to fill their places, and there have been no more insurrections, though quite often they narrowly escape them.

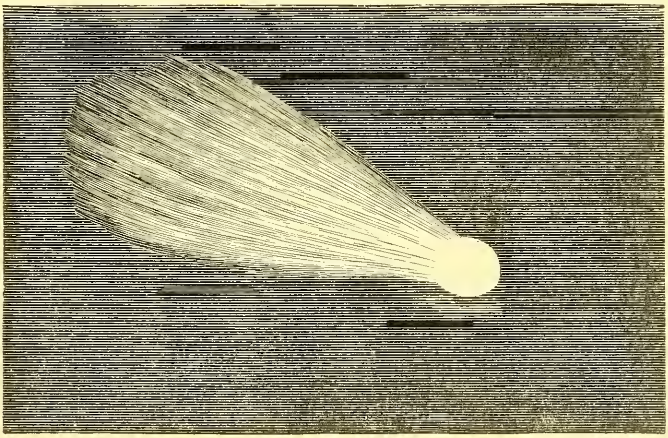
"It is fair to say, on behalf of the Chinese, that their insurrections in the Philippine Islands were brought about by excessive taxes and religious persecutions; at least we are so informed by the historians who have written on the subject. In Penang there is no danger of trouble on this account, as the inhabitants have the fullest liberty in the matter of religion, and the taxes are the same for all nationalities.

"It was late when we got back to the steamer, and, as we were pretty tired, we went straight to bed. When we rose in the morning, we were steaming out of the harbor; and so ended our visit to Penang."

CHAPTER XI.

SHOOTING-STARS AND THEIR CHARACTER.—A REMARKABLE VOYAGE.

THE voyage from Penang to Rangoon was an agreeable one for our young friends, as the sea was not disturbed by storms, and the temperature on deck, both night and day, was delightful. In the cabins it was too warm for comfort, as the iron sides of the ship absorbed a great deal of heat, and the arrangements for ventilation were not able to carry it off. The passengers slept on deck beneath the triple awning that covered the whole stern of the ship, and the boys had a table arranged there



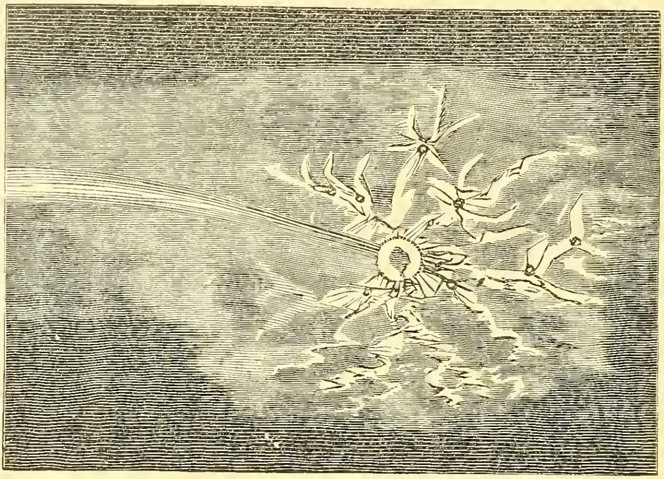
FIRST VIEW OF THE METEOR.

where they wrote their journals, and the letters describing what they had seen. The evenings were devoted to conversation on whatever topics happened to come up, and before they reached Rangoon the boys had made a material addition to their already extensive stock of information.

The distance from Penang to Rangoon is 1194 miles, and the steamer took five days to make the voyage. Consequently, the boys had all the

time they wished for bringing their writing up to date, and getting ready for the new sights and sensations that awaited them in Burmah.

On their first evening out from Penang the travellers were sitting



EXPLOSION OF THE METEOR.

near the stern of the steamer, and gazing out over the moonlit waters. The stars were bright in the sky, and the boys were designating the various clusters and constellations, as they had learned them at school, when suddenly there was a flash of light about half-way from the horizon to the zenith, and directly in their line of vision. Then it moved across the heavens from right to left, with a slightly downward course, and, as the youths fixed their eyes upon it, there was an appearance of an explosion, and the sky assumed its former aspect.

"A shooting-star!" Frank exclaimed.

"Or perhaps a meteor," Fred responded.

"Either way you like," said the Doctor, "as both names are used for the phenomenon. It also has the name of 'falling-star,' as the path is generally downward, or apparently so."

Frank asked what a shooting-star, meteor, or falling-star was composed of, and what was the reason of its appearance.

"That is a question more easily asked than answered," the Doctor replied. "Scientific men in all parts of the world have devoted a great deal of time and attention to the subject, but they are not, as yet, satisfactorily informed as to the character of the meteor."

"Don't they fall on the earth sometimes?" Fred inquired. "I have

read of aerolites that came from the air to the earth, and were composed of solid matter. Are not these aerolites parts of shooting-stars?"

"Circumstantial evidence favors the theory that some of the aerolites come from falling-stars; but, at the same time, no solid matter has reached the earth that can be directly traced to one. The amount of solid matter in an ordinary shooting-star is so small that it is thought to be consumed in its passage through the air, where its great velocity causes it to be heated to a very high degree; whenever anything has fallen from the sky to the earth, and been found at the time of its fall, it is always intensely hot."

"How far off was that meteor we just saw?" said Frank.

"Fifty or sixty miles, I presume," the Doctor answered. "It has been determined that shooting-stars begin to be visible at distances varying from forty to one hundred and twenty miles, and disappear at from thirty to eighty miles. During the time we saw it, it moved about ninety miles; it was in sight three or four seconds, and its velocity was, therefore, not far from thirty miles a second; a pretty fast rate of travelling."

"Ever so much faster than a cannon-ball," Fred remarked. "No wonder it gets heated so that it is consumed."

"But you didn't tell us about the aerolites, and what they are made of," Frank protested.

"Nor about the circumstantial evidence in favor of their coming from the shooting-stars," added Fred.

"Several instances may be given," Doctor Bronson replied; "but the following from Professor Loomis will be sufficient to illustrate the theory:

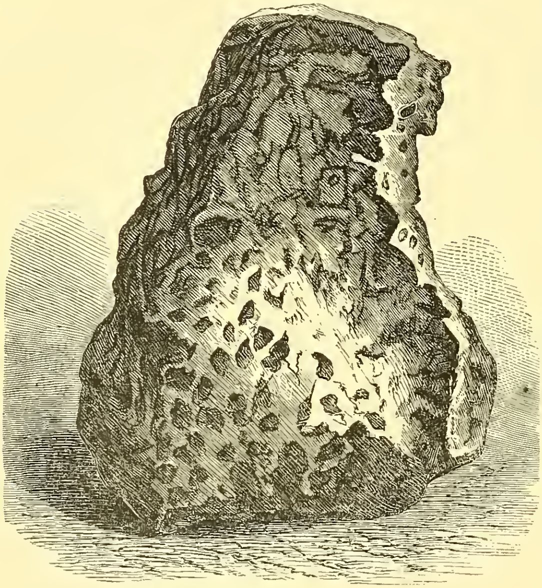
"On the morning of December 14th, 1807, a meteor of great brilliancy was seen moving in the atmosphere over the town of Weston, in Connecticut. Its apparent diameter was about half that of the full-moon; when it disappeared several persons heard a sound resembling the discharge of a cannon, followed by smaller reports like a fire of musketry. Soon after the explosions a man heard a sound like the falling of a heavy body, and upon examination he discovered that a stone had fallen upon a rock near his house and was dashed into fragments, which were quite hot when picked up. When put together they were found to weigh about twenty pounds.

"In another place, five miles away from the first one, somebody found a hole in the turf, and on digging down about two feet he brought up a stone weighing thirty-five pounds. Other stones were found in the neighborhood weighing respectively ten, thirteen, twenty, and thirty-six pounds,

and at a spot several miles distant there were a dozen fragments, evidently broken from a mass of two hundred pounds or more, that struck a large rock with great force. The entire weight of all the pieces of the meteor found in Weston exceeded three hundred pounds, and one of the specimens, weighing thirty-six pounds, is preserved in the cabinet at Yale College."

"The proof is pretty conclusive that the fragments came from the shooting-star," one of the boys remarked. "Do they know how high it was in the sky when it blew up?"

"It was first seen near Albany," was the reply, "and it disappeared near Weston. When first seen it was about eighty miles high; its course carried it toward the earth, so that when it exploded it was only eight miles high. Probably the greater part of the meteor fell into Long Island Sound and was lost, as the direction in which it was going would take it there.



THE SANTA ROSA AEROLITE.

"There have been some twenty or more aerolites in the United States whose falls have been known at the time of their occurrence, besides a good many discoveries of meteoric stones. There was one in Ohio in 1860 that burst in the air one day about noon; several stones were seen to fall and were secured, the largest of them weighing one hundred and three pounds. The surface of all the stones was covered with a crust, as though they had been melted.

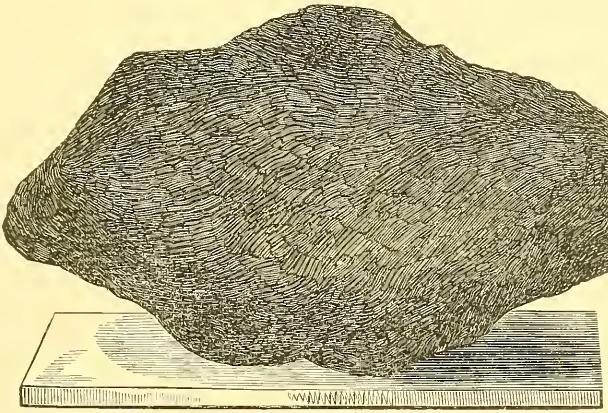
"Now we come to the composition of the meteoric fragments. It varies greatly, some of them containing ninety-six per cent. of iron, while others have only one per cent.; in some there will be eighteen per cent. of nickel, and in others less than one per cent. There are many aerolites that consist of silica, lime, magnesia, and kindred substances; these are called meteoric stones, to distinguish them from those where iron preponderates, the latter having the name of meteoric iron.

"Aerolites generally contain small quantities of cobalt, tin, copper, and one or two other metals, in addition to the iron. The latter, when in large proportion, is readily malleable, and can be wrought by the blacksmith with the utmost ease. You know that iron ore is one of the most abundant minerals, but metallic iron in a state of nature is exceedingly rare. The curious thing about these meteors is that the iron in them is always metallic, and not in the shape of ore.

"I will now tell you," he continued, "about the structure of these masses of iron that fall from the sky. Their surfaces are more or less dotted and indented, and sometimes they suggest that there were large bubbles of air on them at the time they were cooled. One that fell near Lockport, in the State of New York, is honey-combed as though cavities had been dug in it with a chisel, and another that came from Santa Rosa, in New Grenada, has a less number of dimples in it, but they are deeper. And let me say, before I forget it, that this aerolite from Santa Rosa weighs 1600 pounds, and has about one cubic foot of volume; it is consequently very dense, and is composed of nearly pure iron."

Fred asked if that was the largest meteor ever found.

"Not by any means," the Doctor answered. "The largest in any collection was sent from Melbourne, Australia, to the British Museum, and

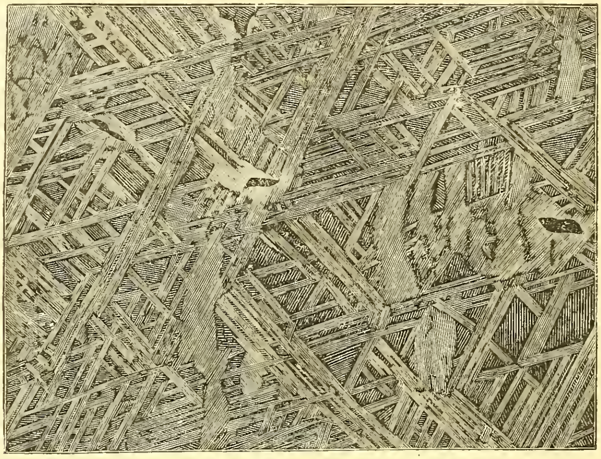


MELBOURNE AEROLITE.

weighs 8257 pounds. The same museum has one from Otumpa, South America, that weighs 1400 pounds, and was detached from a mass estimated to weigh more than fifteen tons. This is the largest mass of meteoric iron known to exist.

"Meteoric iron has a highly crystalline formation, which can be found

by polishing a surface and then heating it to whiteness. When it is cooled it will be found covered with curious lines and streaks that remind you of the frost-marks on a window-pane. An aerolite found in Texas was submitted to the heating process; the streaks that were developed re-



STRUCTURE OF THE TEXAS AEROLITE.

mained there permanently, and the same is the case with several others. Ordinary iron will not exhibit these marks, but they can sometimes be produced in iron that has been melted out of volcanic rocks."

"How does the iron get up in the atmosphere to form these aerolites?" one of the boys inquired.

"That is a conundrum I give up without trying," the Doctor replied. "Nobody has yet been able to tell us, and we must be content with the fact that it is there.

"And there is a good deal of it up in the regions beyond the clouds," he continued, "if we are to judge by the number of meteors or shooting-stars that are seen every year. It has been estimated that more than a thousand meteors fall daily through the air so near the earth that they might be seen from one place if the clouds and the sun and moon would permit; taking this as a basis, there are more than 8,000,000 of meteors visible every day from all over the earth. Once in a while we have meteoric showers, when thousands of meteors can be seen from one point in an hour's time, and frequently the fall is so rapid that they cannot be counted. But it is a curious circumstance that in these showers no meteor or its fragments have been known to strike the earth."

A good deal more was said on this subject that we have not space for recording, and from meteors the conversation wandered to the moon, and around among the stars generally, till it was bedtime. In the latter part of their talk they were joined by the captain of the ship, who told them that the natives of the Malay peninsula and the coast of Burmah have a remarkable knowledge of astronomy, so far as it relates to the navigation of their sailing craft. "To find our positions at sea," said he, "we must use elaborate instruments and take several observations, particularly in getting our longitude; but these natives will work up their longitude by observations on the stars with a simple apparatus consisting of a stick and a string. The string is twice as long as the stick, and is fastened to its ends; there are several knots on the string and notches on the stick, and by holding this rude instrument in a certain position, and observing the relations between the knots and notches with some of the more prominent stars, they will get their longitude exactly.

"It is too late now," said the captain, "or I would tell you about a most remarkable voyage that was made across the Bay of Bengal, a few years ago, by men who had no knowledge whatever of navigation. Perhaps we'll have it to-morrow night."

With this remark he left them, and, as before stated, the evening session came to an end at the hour for retiring to sleep.

According to promise the captain joined our friends the next evening, and told them of the feat performed by a small party of natives in crossing the Bay of Bengal in an open boat.*

"There were five of them," said the captain, "and they went to sleep in their boat one night, so as to take an early start up the river from Rangoon. The boat was made from a hollowed log, and was about twenty-five feet long by four wide in the centre; it had a mast with a small square sail, like what you generally see on the native boats in the East, and its sides were not more than a foot above water. This was the craft that safely carried five men a thousand miles across the open sea.

"They went to sleep, as I said, and when they waked in the morning, just at dawn, they found themselves at sea. The boat had become untied from the stake where it was fastened; the strong current of the river, with the ebb-tide, had floated them down at a rapid rate, and before they knew it they were out of sight of land.

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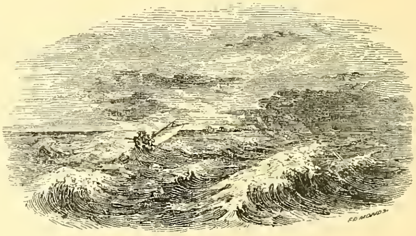
* The story here given was narrated to the author by Captain H. B. Smith, of the British India Steam Navigation Company's ship *Madura*, during a voyage up the east coast of India in 1878.

"Not one of them had ever been at sea before; they were all from the upper country, and some of them had not even heard there was any water in the world beyond their own river. The oldest of the party was captain of the boat; he had heard something about 'the black water' that was so salt as to poison those who drank it, but beyond that he had very little information concerning it.

RIVER-BOATS IN BURMAH.

"He had no idea in what direction he should steer to reach land, but remembered that it was necessary to keep a straight course to get anywhere. Whether to go east, west, north, or south, he could not say, and in fact he hardly knew the points of compass. He had no compass, or anything of the sort, and so he concluded that to steer properly he should keep the sun constantly on his left hand. It was unfortunate that he did not decide to keep the sun on the right hand, as he would then have brought up on the coast of Burmah, while the course he took was westward, across the Bay of Bengal.

"The boat was loaded with salt belonging to an English house in Rangoon, and consigned to their agency up the river. The old man ordered the salt thrown overboard to lighten the boat; then he divided the provisions, giving each man his share. The sail was spread to the light wind that was blowing, and with the sun on the left the boat moved on.



OUT ON THE WATERS.

"The only provisions were a couple of bags of rice, and with care this could be made to last a month. They had very little fresh water, and the old man's ingenuity was set to work to devise means of

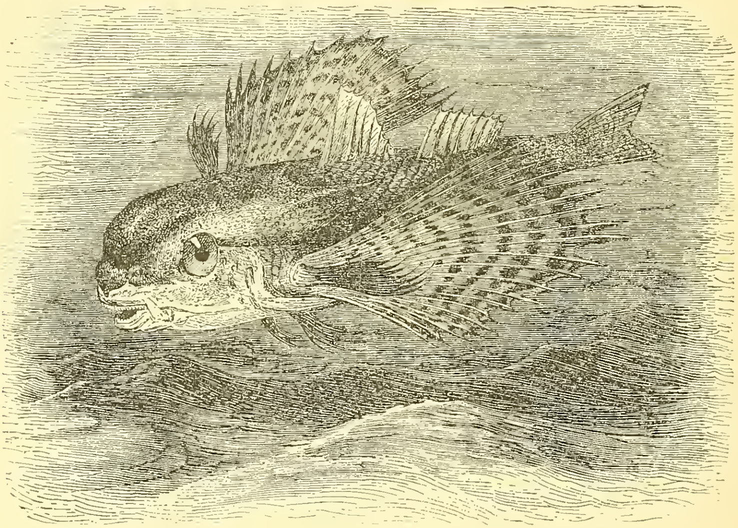
collecting some. They had a little furnace on some earth in the middle of the boat where they did their cooking, and they had a bag or two of charcoal. Whenever they were engaged in cooking their daily allowance of rice, the *padrone* caused his companions to dip a couple of tin plates in the sea; when these plates were cooled as much as the sea-water could

A WRECK AT SEA.

cool them, they were wiped dry and held in the steam that rose from the rice-kettle, and in this way a few drops of water could be obtained. As soon as they were heated, the water that had accumulated on the plates would be wiped off, and the dipping in the sea would be renewed. Enough water was collected in this way to prevent their dying of thirst,

but not enough to save them from considerable suffering. Of course the rice contained a good deal of water which it absorbed in the process of cooking: the usual mode of preparing rice in the East is to steam it above a boiling kettle, and not to place it in the water, after the American manner. Occasionally they were surrounded by flying-fish, but they never caught any, though they tried to do so.

"On and on they sailed. Day after day passed with no sign of land, and no ship to bring them assistance. Their coals were exhausted on the seventeenth day; on the next and the next they suffered terrible thirst, because they could no longer make use of their condenser, and the



A FLYING-FISH.

old chief said that if they found no relief by the twentieth day they would have to give up.

"But at ten o'clock in the night of the nineteenth day the boat slid up on a sandy beach, and the party stepped on shore. Fortune willed it that they landed on the beach in front of the French town of Pondicherry; they had seen the lights for an hour or more, but mistook them for stars.

"The boat was pulled up high and dry on the beach, which was deserted at that hour. One man was left to guard it, and the other four, with the old man leading, walked in single file through the streets of Pondicherry in search of assistance.

"At every few steps the leader called out, 'Does any one speak Burmese?' People stared at him, and some laughed, and thought him insane, but he kept on up and down the streets with his comrades, repeating his inquiry in his own language, for he knew no other—'Does any one speak Burmese?'

"For nearly an hour he continued in this way, and just as he was about to give up, and try some other means of making himself understood, some one who spoke Burmese stepped from the crowd and asked what he wanted.

"His first inquiry was whether there was an agency of the firm to whom the cargo of salt belonged. Finding there was none, he named other houses of Rangoon with no better luck, and at last asked for the British India Steam Navigation Company.

"He went at once to the Company's agency, but it was closed for the night. He was there bright and early next morning, and his first request was for a telegram to be sent to his employers at Rangoon, so that they would know he had not run away with the cargo of salt. He wanted his character vindicated first of all, and then he asked if he and his comrades could be sent to Rangoon, and allowed to pay their passage on arrival, as they had not sufficient money to pay in advance.

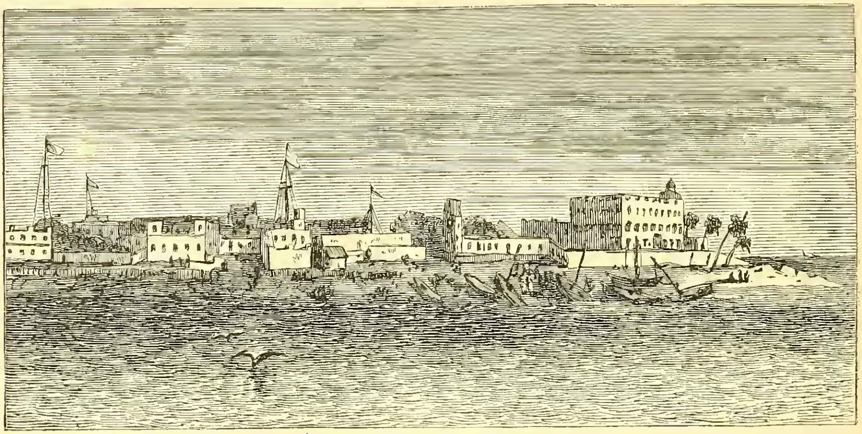
"Those who heard his story could hardly believe it, especially when they saw the boat in which the five men had come across the Bay of Bengal. But they were fully convinced when a despatch came from the house at Rangoon to send the men back, and draw for expenses. The firm had full faith in the honesty of the old man, as he had been a long time in their employ.

"The agent of the French Steamship Company bought their boat for a good price, to keep as a curiosity, and gave them a free passage to Madras; from Madras the British India Company gave them passage to Rangoon, where they arrived safely, and were heroes in the eyes of all their neighbors and friends."

Doctor Bronson reminded the captain that there were several instances on record of boats not over twenty feet long that had safely crossed the Atlantic Ocean.

"Yes," the captain answered, "that is quite true; but bear in mind that the boats you speak of were specially built for the voyages they undertook; they were well provisioned and watered, and were in the track of steamships, from which they could obtain fresh supplies nearly every day if they wanted them. The men who managed them were experienced sailors, and were provided with instruments by which they could

work out their positions, and know where they were. In the case I speak of the boat was totally unfit for ocean navigation, the men on board had never looked on the sea, and knew nothing about it; they had no proper supply of provisions, no instruments whatever, and even if they had possessed any, they were ignorant of their use. When you consider all the circumstances, I think you will agree with me that the voyage of the five Burmese was the most remarkable you ever heard of."



LANDING ON THE BEACH.

CHAPTER XII.

FIRST DAY IN BURMAH.—THE GOLDEN PAGODA.

THE first land they saw in approaching Burmah was, as Fred expressed it, a light-house without any land visible for it to stand on. The light-house is on a dangerous reef of rocks more than a mile long, and quite covered at high-tide, and many a ship came to grief there before the beacon was erected. As there is no sign of land at the point where the light-house is first seen, the sight is a curious one. Fred and Frank were much interested in the spectacle, and when they first saw the tall structure of stone, 150 feet in height, they could hardly believe the evidence of their eyes.

A boat headed for them, and before passing the light-house they had taken on board the pilot who was to show them the way to Rangoon. The city stands on one of the mouths of the Irrawaddy, twenty-six miles from the sea, and the boys were forcibly reminded of their visit to Saigon by the general similarity of the scenery at the mouths of the Meikong and the river they were now ascending. The branch on which Rangoon stands is known as the Rangoon River; it is nearly two miles wide at its mouth, but gradually narrows until it is only about a third of a mile across at the city itself. The banks are low and flat, and the scenery is monotonous; there are many little creeks and canals branching off from the river, and forming quite a net-work of waters navigable for small boats. Rice-fields and uncultivated swamps stretch away for long distances, and it was hardly necessary for the captain of the steamer to say that the region was an unhealthy one for foreigners.

The steamer anchored among a considerable number of foreign ships, and as a good many of the latter were receiving cargoes from lighters that lay along-side, the scene was a busy one. Boats, rowed by Chinese, Burmese, Klings, and other Oriental laborers, were speedily at the side of the new arrival, and a lively bargaining began for transportation to the shore. A Chinese boatman offered better terms than any one else, and in a short time our friends were deposited with their baggage in a lit-

tle hotel facing the river, and in that part of Rangoon known as "The Strand." This is a wide street that has been well paved by the authorities, and it contains the principal foreign residences and business houses, together with the Government offices and other public buildings. The

CREEK LEADING FROM THE RANGOON RIVER.

tropical foliage is so dense in many places that comparatively few of the houses can be seen at once, and it is difficult for a stranger to realize that he is in front of a city of a hundred thousand inhabitants when his ship drops anchor in Rangoon River.

Rangoon is only a century and a quarter old, having been founded in 1755 by the Burman king, who conquered the province of Pegu, and determined to have a city near the sea; it extends about three miles along the river and a mile back from it, and its streets are generally at right angles, and well paved. There is a great difference between the foreign and native quarters, as in all the open seaports of the East: the forme

contains well-built houses of planks, with tiled roofs, while the latter consists of bamboo huts that cost only a few dollars to build, and are liable to be blown down in a high wind. Most of the European houses are on piles, to protect them from the occasional floods of the river, and to prevent the intrusion of snakes, who often drop in upon them.

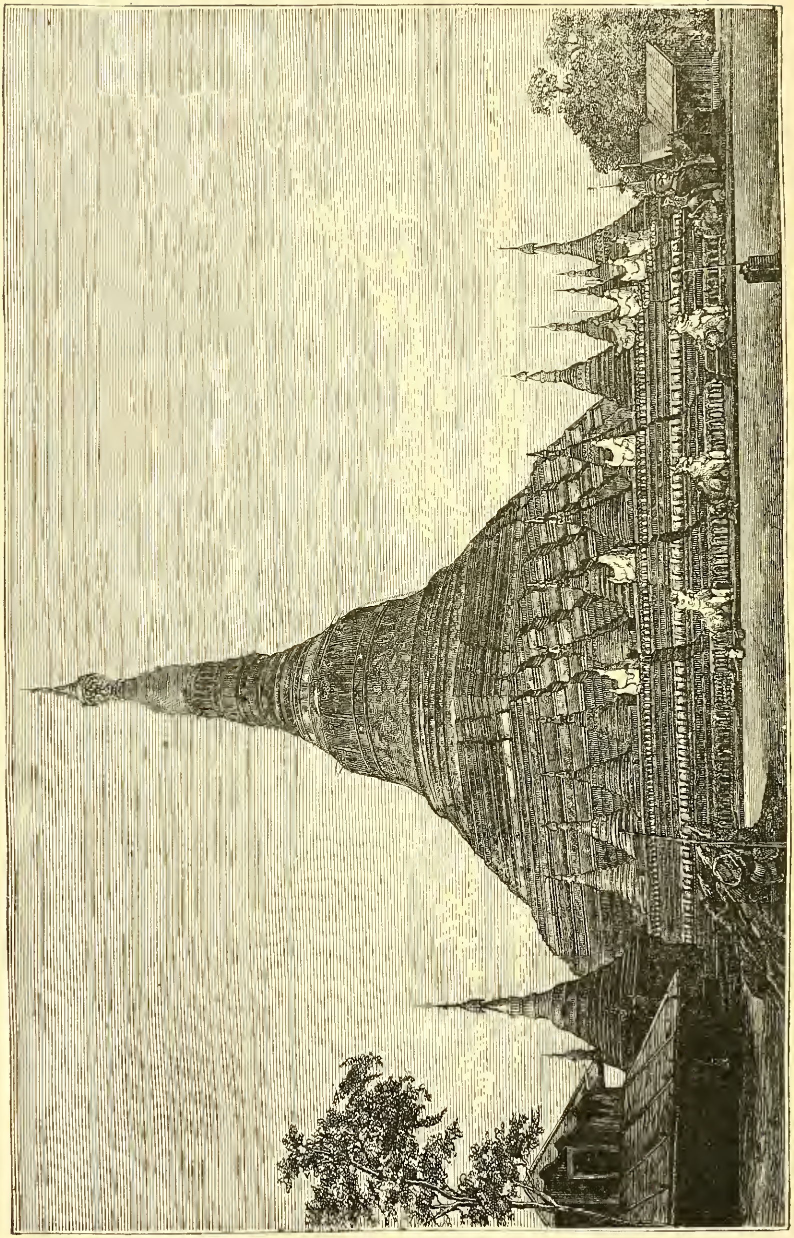
The boys were eager to see the greatest of all the sights of Rangoon as soon as possible, and they could hardly wait for the Doctor to complete the negotiations for their stay at the hotel. They found it very interesting, if we may judge from Frank's letter, which he wrote that evening, describing what they had seen during the day.

After narrating their impressions of the voyage up the river, and the sights on the way, the youth wrote as follows:

"We went as soon as we could to see the *Shoay Dagon*, or golden pagoda, and it is the largest thing of the kind we have yet seen; I enclose you a picture of the pagoda, as it would not be possible to give a full idea of it with words alone. In the first place, it is on a small hill, which makes it all the more imposing, and enables you to see it from a long distance, and it rises way above all the houses and other buildings in Rangoon. As you come up to the entrance you find some horrid-looking griffins, with impossible features and a very angry look; but as they are of brick and stone, they are not at all dangerous. They are put there to keep out all evil spirits, but they could not prevent the occupation of the temple by the British soldiers when they captured the city in 1852. A gentleman who was here then says it was not a very solemn spectacle to see the soldiers smoking among the shrines, and cooking their dinners on the altars, while the necks of the idols were hung with cartridge-boxes, and their heads covered with military caps. The Burmese were very angry at the desecration, but as soon as the war was over the temple was restored to the care of the priests, and has remained in their hands ever since.

"If the griffins let you pass without trouble, you next come to some long passage-ways with high walls; these walls are decorated with Burmese paintings that represent the tortures of all wicked people, according to the Burmese notions, and it does not need a long study to convince you that the artists must have had very lively imaginations. There is a great deal of yellow and gold in these paintings, and in the other ornamentation of the walls; and certainly the gilding must have cost a large amount of money.

"Then you go on till you come to a staircase very much out of repair; when you climb the staircase you come to a stone platform 1000



GREAT SHOAY DAGON, OR GOLDEN PAGODA.

feet square, and in the middle of this platform, or terrace, the shoay dagon stands. It is an octagonal pagoda 300 feet high and 500 in diameter, and is the shape of a bell, as you will see by looking at the picture. It is built of brick and stone, and covered with gold-leaf: the gold that was used for the gilding is said to have equalled the weight of the king who ruled at the time of its completion; but we are not told how much that was. It has worn off in spots by the heavy rains that fall in Burmah, but enough is left to give it a rich appearance, and justify the name it bears.

"Around the base of the pagoda are some smaller pyramids of the general shape of the great one, and there are broad steps of stone with more griffins to watch over them. When you get inside the pagoda you find temples and statues in irregular order, as though they had been put there without any general plan; some of the sitting statues are ten or twelve feet high, and we saw some standing ones that must have measured eighteen feet at least. They represent Buddha, or Gaudama, and the largest are of brick and mortar, while the smaller ones are of metal. All are gilded, and some very thickly, and a good many had their garments made of bits of glass that were arranged to give a very pleasant effect. The general appearance of the temples and statues reminded us of those of Siam that we have already told you about, and the object is the same — the veneration of Buddha. It is proper to remark that the pagodas of Burmah are not actually temples, but simply the places where sacred relics are kept, and so the only sanctity the edifice possesses comes from the articles deposited there. The relics in this pagoda consist of eight hairs from the head of Gaudama, or the last Buddha, and a few other things of less importance. We were not permitted to see these relics, but only the shrines containing them.

"I send you also a picture of the statue of Gaudama, so that you may see how a Burmese idol looks. It is not a fine work of art, as the fingers are out of proportion to the arms, and the arms to the body, while the nose and mouth are on a more liberal scale than the most of us would like to have. All these statues have a very happy and contented expression, and some of them actually seem to smile when you look at them.

"From the golden pagoda we went to a pavilion near by, where hangs the Great Bell of Rangoon. All three of us went inside, and there was room for half a dozen more; the Doctor stretched his arms to their full length, and could just touch the edges of the bell with the tips of his fingers. The bell has no tongue or clapper, but is rung by means of a

STATUE OF BUDDHA IN THE GOLDEN PAGODA.

beam swung against the outside. The bells of Burmah are generally tongueless, but the Doctor says that is not the case with the belles.

"This great bell is said to be worth a hundred thousand dollars, as it contains a large amount of gold. Before it was cast the people of all classes crowded around to throw their offerings into the furnace where the metal was melted; women gave the golden ornaments from their ears, and the anklets and armlets that are so highly cherished throughout the East; men threw into the molten mass their golden scabbards, often glistening with jewels, and their costly betel-boxes; and even children came with their toys of copper or baser metals, where they were too poor to give gold or silver. The bell has a delicious tone, and in this respect is said to be the finest of all the great bells of the world.

"When the English captured Burmah, in 1824, they tried to carry the great bell away to England. While they were loading it into the ship the tackle broke, and the bell fell into the river, where it lay till after the country was restored to the Burmese. The latter fished it out and put it back in its place, and since then it has not been disturbed. The natives believed that so long as the bell remained here, and gave forth its sounds, the country could not be conquered; but their theories have been somewhat confused, as the English have had possession of this part of Burmah since 1852.

"The golden pagoda and its enclosure were full of natives coming to their worship, or going from it, while not a few seemed to be there for the sole purpose of idling away the time.

"The Burmese have some resemblance to the Siamese in features and stature, but their physiognomy is not the same to a close observer, and there is a considerable difference in the dress of the two people. The children wear little clothing, or none at all, and when thus costumed they look very much like young Siamese in similar garb. Both men and women wear a short jacket of white material, and coming down about to the hips; the men wear a *putso*, which is a piece of silk or cotton cloth about a yard wide, wrapped around the waist, and descending to the knees, while the women have a similar garment that comes nearly to the ground. In each case this article is more or less gay in color, and the more red or yellow they can get into it the better are they suited. Both sexes wear the hair long; the women comb it straight back over the forehead, while the men make a bunch of it on the top of the head, and frequently cover it with a gaudy handkerchief.

"Both sexes wear ornaments in the ears, and large ones too. The ear is pierced so that it looks as though a large piece had been taken out

of it: we are told that they puncture the ear when a child is very young, and gradually enlarge the opening by inserting pieces of bamboo. The ear is not considered properly pierced until the hole through it is at least half an inch in diameter; then it is useful as well as ornamental, as it will hold a cigar or any article of similar size, and a Burmese clerk finds it a convenient place for carrying a pencil. Doctor Bronson says that when you send a messenger to carry a letter, he rolls it up and puts it in his ear; he might put it in his pocket, but then he is far less likely to have a pocket about him than to have his ear pierced. The women use their ears as bouquet-holders, and it is not unusual to see one of them walking along the streets with a bunch of flowers in her ears that would sell for at least ten cents on Broadway in a summer afternoon.

A BURMESE WOMAN.

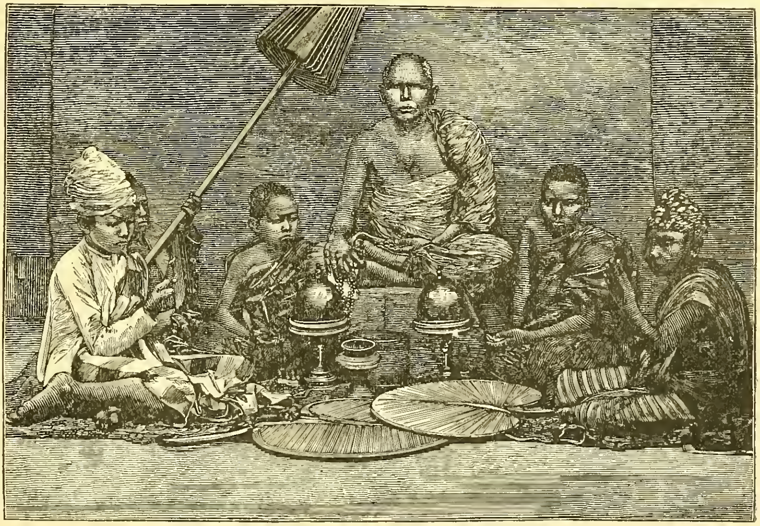
"The natives have their own courts and ways of justice, subject to the control of the English; but the latter do not interfere with them so long as their sentences are not accompanied with cruelty. The British rule has been so humane, in comparison with the tyrannical methods of the kings of Burmah, that the people are quite content with the invaders, and have no desire to return to the old system. It is the custom of the Burmese to submit their disputes to an elder, whose decision is rarely opposed. We had a chance to look into a native court on our way back from the pagoda; the elder was sitting cross-legged on a stool, and his attendants were seated or squatted near him—two on each side. One of them was holding an umbrella—the symbol of dignity and power—and on the floor in front of the judge

there were two large fans of palm-leaf. At certain parts of the ceremonials of a court these fans are taken up and waved, and, no matter how small the case may be, the judge displays an immense amount of dignity in giving his decision.

"It is said that the Burmese judges are very corrupt, and the man who pays the highest price can have the kind of justice he wants. This is particularly the case in those parts of Burmah where the English are not in power, and the whole government is a system of bribery and corruption. The officers are rarely paid, and even if they are they get very small salaries; a gentleman who has lived here some years, says that a native official in Burmah cannot make an honest living unless he steals it."

While Frank was busy with his description of the golden pagoda, and the sights connected with it, Fred devoted his attention to a short account of the British in Burmah, and how they came there. Here it is:

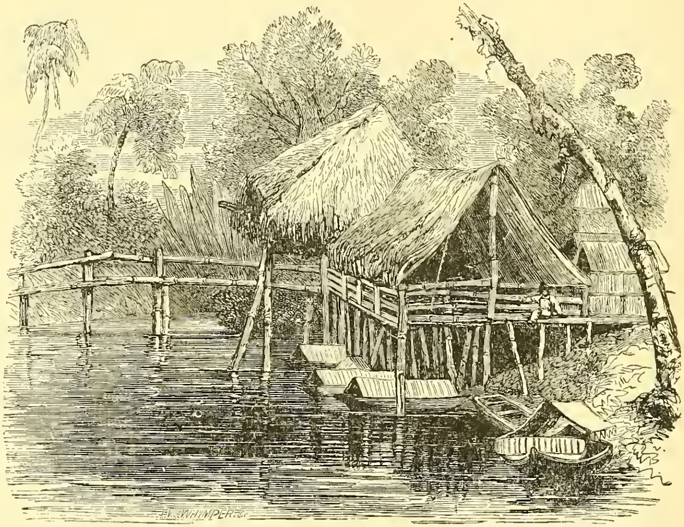
"The British possessions in Burmah comprise about 100,000 square miles of territory, with 5,000,000 inhabitants; they include the former States of Tenasserim, Aracan, and Pegu, and these States are now the three provinces that constitute the Government of British Burmah. The first two have been occupied since 1824; Pegu was captured at that time, but afterward restored, and it remained in Burmese possession till the second war, in 1852. An American doctor, who was temporarily serving



A BURMESE JUDGE AND HIS ATTENDANTS.

on an English gun-boat during the second war, says that the Burmese were very brave in many instances, but of course they were no match for the artillery and other warlike apparatus of the English.

"But it seems that not all the bravery was genuine, for when this doctor went through the fortifications of Rangoon, after its capture, he found that the Burmese general who commanded the place had chained his gunners to the cannon, so that they could not run away. And furthermore, when the battle was going on, the wives and children of the officers and soldiers were penned up in the trenches, and ordered to lose their heads if the defence was not successful.



BURMESE RIVER SCENE.

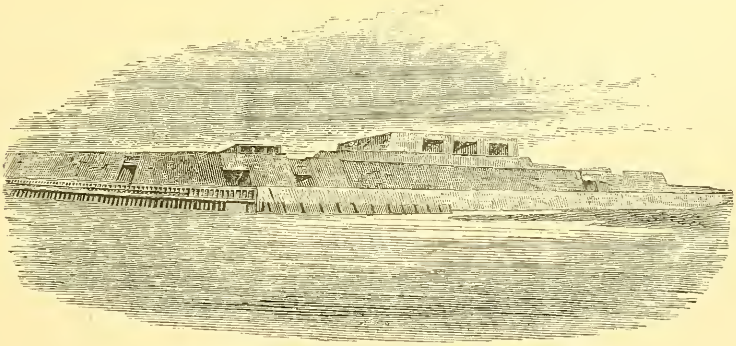
"Many of the cannon used in the defence of Rangoon were made of teak logs, hooped with iron; some did good service, but many of them burst after a few rounds, in consequence of being overloaded. The Burmese were at least two hundred years behind the times in making and using artillery; and they were not much better off with their war-boats, which were very narrow in proportion to their length, and made from the largest teak logs, hollowed out like the canoes of the Indians. They were rowed or paddled, and there were from fifty to one hundred rowers in each boat; the men kept time by singing a monotonous song, which had the word 'hah!' at the end of each line, and every time the 'hah!' was uttered the paddle was dipped into the water. The boats were pro-

pelled very swiftly by their crews, but the thin sides offered no resistance to the cannon of the English ships, and a single well-directed shot was enough to knock one of them to pieces.

"So much about the war, which did not last long when it was fairly begun. After peace was arranged, the English went to work to develop the country as much as possible, and to show the natives they had come there to stay. They made roads, introduced steamboats on the rivers, and a few years ago they began the construction of a railway which is intended to run to the frontier, and some time go on to the capital of the kingdom of Ava, which is the part of Burmah that remains under its native ruler.

"The country has been very prosperous since the English took possession of it; the population has doubled in consequence of immigration —some of it from China, and some from native Burmah; and the natives seem to understand very well the advantages of living under a government that does not oppress them. The principal product of the country is rice, and it is exported to England and other countries; Rangoon rice is not unknown in America, and sometimes there have been half a dozen ships loading at one time in this port for the United States. About 2,000,000 acres of land are devoted to the cultivation of rice, and a few hundred acres to indigo, tea, and mulberries. There are very few manufactures; with the exception of a small quantity of silks that are woven at Prome, and some lacquered ware, the country does not make much that the rest of the world cares for.

"Perhaps this information will be found a little dry to some of the boys at home, but if it is they can skip it. There's a good deal more I could say, but the hour is late and we must rest ourselves for to-morrow."



NATIVE FORT CAPTURED BY BRITISH TROOPS.

CHAPTER XIII.

A VOYAGE UP THE IRRAWADDY.

WHILE the boys were busy with what we have just read, the Doctor was endeavoring to arrange a journey into the interior, and, if possible, to enable his young friends to see the King of Ava and his capital city. But a serious difficulty arose, and rendered a visit to the capital impossible.

The old King of Burmah had died a short time before; his successor, King Theebaw, was unfriendly to foreigners, and apparently to everybody else, and there was a good prospect of another Burmese war. Theebaw had imprisoned some of the European residents of Mandalay, the capital, but afterward released them through fear of trouble with the British authorities. The English had withdrawn their official representative at Mandalay, and the steamers ceased to run from Rangoon to the capital; an insurrection had broken out among the Burmese, the exact extent of which was not known; small pox had appeared in the palace, the king's brother and uncle having died of it, while the king himself was supposed to have been attacked with the disease. The astrologers at the royal court were endeavoring to ward off the effects of the evil spirits, and ordered sacrifices to appease them. Hundreds of young girls were seized in the streets of Mandalay, and sacrificed in obedience to this order, and all who could leave the city were doing so. It was dangerous to go to Mandalay, and besides there was no way of getting there, since communication was cut off by the stoppage of the steamboats.

The next day news was received that the king had arrested about fifty of his relatives, and intended to put them to death, so as to prevent any intrigues for his place on the throne. They were kept in prison for a while, where they were treated with great cruelty, and finally murdered.

Of course the trip to Mandalay was abandoned at once; but as the steamers were still running to Thayetmyo, which is in British territory,

and near the frontier, it was determined to go there. Passage was taken on a steamer leaving the following day, and at the hour appointed for departure our friends were on board.

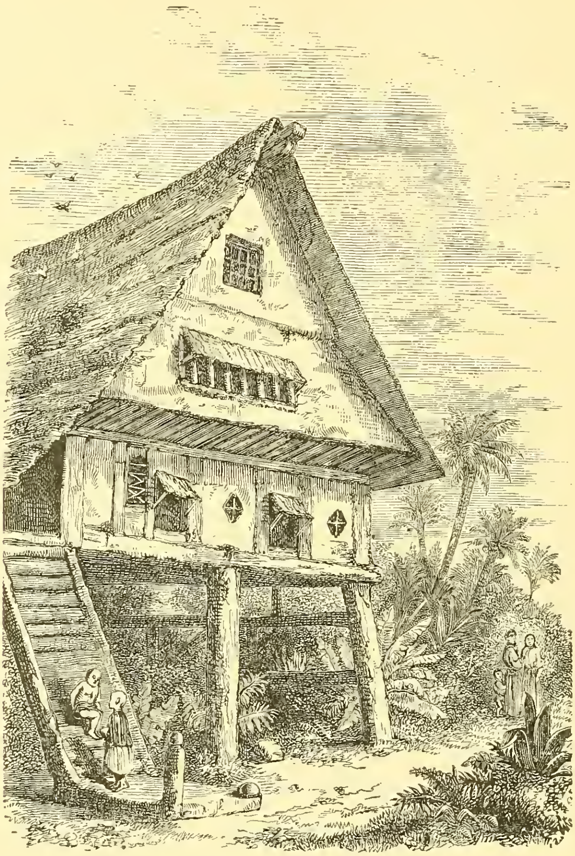
The steamboat did not ascend the Rangoon River to the Irrawaddy, but passed through a channel known as Bassein Creek, which shortened the distance, and gave a better depth of water than the river. It was not till the day after leaving Rangoon that they entered the great river of Burmah, the Irrawaddy, which is about 1500 miles long, and is said to be the fourth in the world in the volume of water brought down by its current. In the latter part of its course it is nearly four miles wide, and at Bhamo, 1000 miles from the sea, it is not less than a mile

NATIVE BOAT ON THE IRRAWADDY.

from one bank to the other. It rises in the Himalaya Mountains, east of Thibet, and has a course that is generally southerly, though in one place it makes a large bend like the letter S, and in another it turns sharply from the south to the west. It is navigable for more than 1000 miles for boats drawing not over three feet of water, and it is open for the entire year.

The river is subject to great floods, and in the months of May and June the water is frequently forty feet above the lowest stage. In the dry season the channel is crooked and the current very rapid, but when the river is up the pilots pay little attention to the channel, but steer straight on, pretty much as they like.

The boys were much interested in the novel sights of the great river; they endeavored to keep an account of the number of native boats, but finally gave up the effort, as the craft were too numerous to



NATIVE HOUSE NEAR THE RIVER.

be counted, and allow time for seeing anything else. The boats were of all sizes and kinds; they were generally built of teak, the best timber in the world for ships, and they rose high out of water at both bow and stern. They were generally roofed over in the centre and at the stern, and sometimes there were two or three roofs of different heights. The steersman was elevated under a canopy over the stern, and at a little distance he resembled an idol in a shrine.

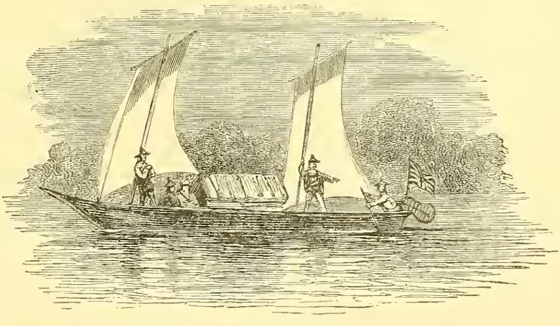
Many of the boats had tall masts for carrying a single square sail,

such as the Chinese use, and of course they were not able to sail much into the wind. The captain told the boys that he had seen boats on the river with yards more than 100 feet long, and that 120 pulleys were needed to handle the sails properly. The larger boats had upper and studding sails, but all the rest had only the square sail.

Several times the "wash" or "back water" from the steamboat overturned the little row-boats that ventured too near. These boats were hewn from a single log, like the "dugouts" of the United States, and were very easy to upset when not skilfully managed. The occupants did not seem to care much for being spilled out, as they immediately turned their boats right side up, baled them out with their hands, and then sprung in and laughed, as though it was a good joke. When the boys called attention to the first of these overturns, the captain of the steamboat told them of a wholesale upsetting he witnessed at the time of the second Burmese war.

"It was in front of Rangoon," said he, "and before we had actually begun to fight. The Governor of Rangoon was sending hostile messages, and we were sending equally hostile ones back, but not a shot had been fired.

"One morning the governor thought he would astonish us with a show of his force, and sent out a flotilla of thirty war-boats: they had all the way from twenty to fifty rowers in each boat, and it was really a beautiful sight. On they came with flags flying, gongs beating, trumpets sounding, and swords and muskets flashing in the sun: they dashed through the water at a rapid rate, and if the governor was looking on from the shore, he must have been pleased at the display.



MALAY "SAMPAN" OR RIVER-BOAT.

"Just as they were making their finest appearance, an English steamer with despatches from Calcutta came up the river at full speed against the strong current. The Burmese were not accustomed to this sort of thing, and evidently knew nothing about the heavy swell that a big paddle-steamer makes. It caught the flotilla broadside on, between the ship and shore, and capsized every boat in it;

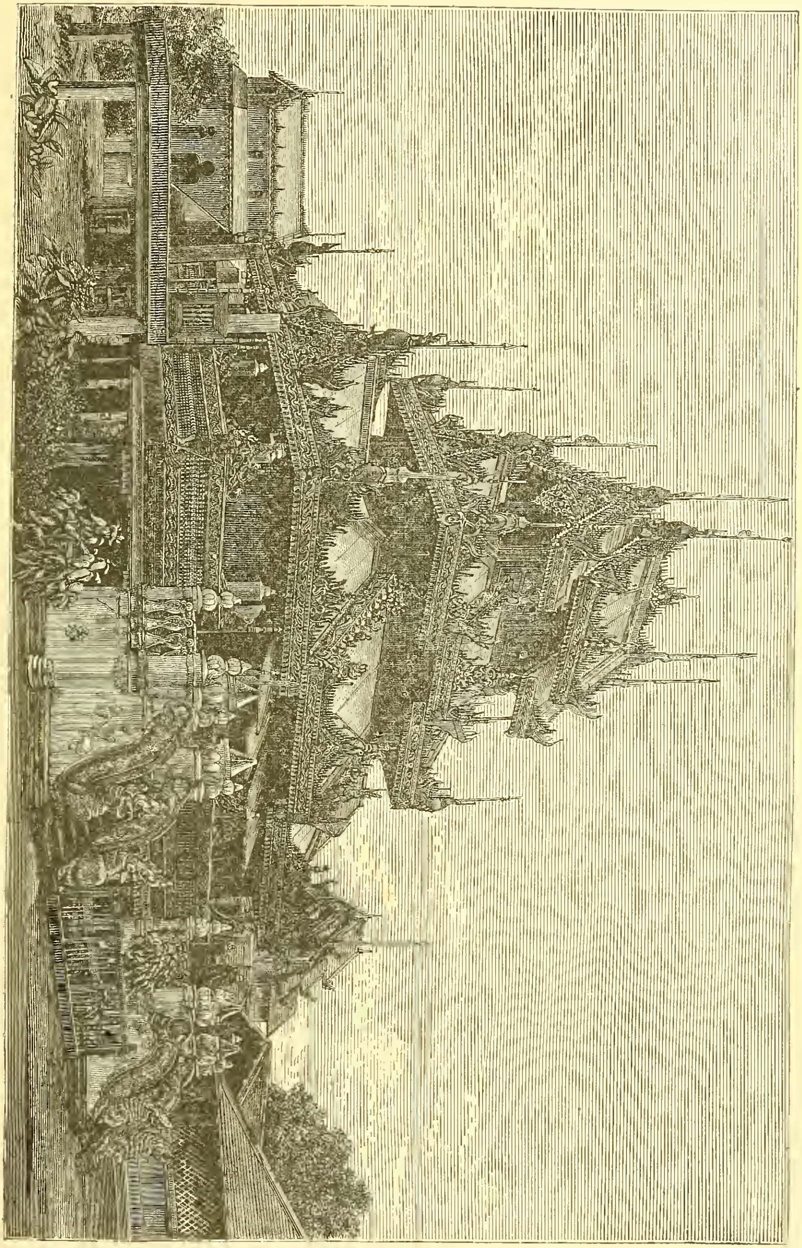
the men saved themselves by swimming, but the whole lot of flags, gongs, muskets, swords, and other paraphernalia of Burmese war went to the bottom of the river. We laughed heartily at the ludicrous incident, which should have taught the Burmese that their war-boats are no match for an English steamer, even before she fires a gun."

The scenery of the river was not much unlike that of the Yangtse in China, except that it was more tropical, and the foliage and verdure generally were more luxuriant. Wherever there was a forest the trees were large, and overspread with climbing plants and orchids; then for long distances the banks were covered with tall grass that would conceal an elephant walking through it, and for this reason it was called "elephant grass" by the officers of the steamboat. Villages of bamboo were reasonably abundant, some of them large and compactly built, while others were small and straggling. There were plantations of bananas and other tropical fruits, and sometimes they were so large and luxurious as to make a ready explanation of the very low price of these products of the soil in Burmah. If a man does not become weary of the monotony, he can get along very cheaply in this country by living on bananas alone.

The steamer made short stoppages at several villages, and finally rested for an hour or more at a place called Myanaong. This gave Doctor Bronson and the boys an opportunity to go on shore to see what the town contained.

There were crowds of natives in gaudy costumes, and nobody seemed to be actively employed. One man who spoke a little English offered to conduct the party around the place, and his offer was readily accepted. He led the way to a temple or pagoda with a curious arrangement of terraces and peaked roofs that can only be described by a picture. There was a good deal of gilding and yellow paint in the ornamentation of the building, and on the corners of the terraces there were staffs or poles with bells that jingled in the wind. As before stated, the large bells in Burmah have no tongues, and are rung by sticks of timber swung against them, but the small ones that hang on the roofs of the temples are better off. When the breeze is blowing they keep up a perpetual tinkle by no means unpleasant.

The entrance was up a marble staircase at one corner of the lowest terrace, and there was a similar stair at the opposite corner. Each of the entrances was guarded by fierce griffins, like those already described at Rangoon, and the carving was by no means of an ordinary character. The wood-carving on the ornamental parts of the building was generally well done, and the boys spent some time in examining the various de-



A BURMESE TEMPLE.

signs. They climbed to the top of the edifice and looked down on the roofs of the lower buildings that surrounded it; some of these were the residences of the priests that had charge of the temple, and others were intended as lodging-houses for strangers who came there to worship, and intended to spend several days in the place. The priests were in yellow robes, like those of Bangkok, and their general appearance was much the same. The architecture of the temples, and certain parts of the worship of the Burmese, have no resemblance to the Siamese forms, but the principles of the religions are identical. Buddha is the divinity in the one country as in the other.

The steam-whistle called our friends back to the boat, and in a little while they were heading up the river once more. As they turned a bend above Myanaong, the captain pointed to a plain that stretched away for several miles along the bank of the river, and was backed by a dense forest.

"On that plain," said the captain, "I saw a fine example of the superiority of the European mode of warfare over that of these sleepy Orientals. I have already told you how we overset a fleet of their war-boats without endeavoring to do so, and now I'll tell how we dispersed an army of several thousand men in about five minutes:*

"The steamer that I was on during the second Burmese war was ordered to come up the river to prevent any re-enforcements going to the Burmese in Rangoon before we assaulted the place. Just before reaching this point we heard the sound of gongs and trumpets; it grew louder and louder, and we slowed our engines and crept gently along. Soon we discovered a great flashing and sparkling all over the plain, and from the mast-head we made out that an army was marching to the relief of Rangoon.

"Three 'woons,' or governors of as many districts, were leading the army, and it was a gorgeous array of elephants, horses, wagons, gongs, flags, trumpets, brass trappings, and all 'the pomp and circumstance of glorious war.' The three woons were on as many elephants in the front rank, seated on gilded howdahs, and shaded by gold umbrellas. Their servants knelt behind them with fans and betel-boxes, and the driver on each elephant's neck was flourishing his wand as though proud of the honor of directing the stately beast who carried a woon. Then came five elephants drawn out in a line, and laden with servants and baggage, and

* For these two incidents the writer is indebted to the author of "Up and Down the Irrawaddy."

then twelve elephants bearing the sons and nephews of the woons, together with the staff-officers. Next came the horsemen, three or four hundred strong, and behind them the beaters of gongs and cymbals, with the blowers of trumpets; then followed the infantry, and then the wagons and the camp-followers, making a long, irregular column that stretched far away to the forest.

"It was a grand spectacle, and it seemed a pity to interfere with it, but in war we cannot give way to sentiment. They did not see the steamer, and were evidently not aware of her presence; the first intimation of it was given by our gunners, who dropped a couple of shells right in the midst of the elephants, and followed them with two or three more. Then the steam-whistle was blown, and a rocket was sent flying over the heads of the woons.

"The whole scene was changed in an instant. Half a dozen elephants stumbled and fell, and the air was full of golden umbrellas, white cloths, yellow arms and legs, and gilded howdahs that fell with a crash. The rest of the elephants turned and dashed through the multitude, dropping their burdens as they ran, or brushing them off against the trees when they reached the edge of the forest; the horses took fright and scattered in all directions, some with riders and others with empty saddles; the ox-wagons were overturned, and as for the people on foot, they emulated the horses in the matter of rapid travelling. All that grand army was scattered in less time than I have taken to tell about it."

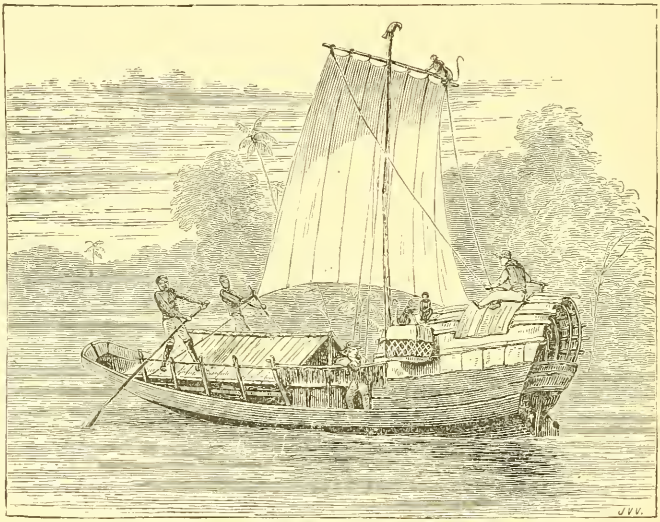
"That was what you call 'a stampede,' was it not?" said one of the boys.

"Exactly so," was the reply. "The army was stampeded by the shells that came so unexpectedly and frightened the animals, and when they began to run the men on foot naturally followed their example. The elephant is a timid beast in many things, and so is the horse, and when they take fright nothing can stop them. The elephant was employed in war before the invention of gunpowder, but since that explosive came into general use he has ceased to be of any value on the battlefield. The Burmese are not cowards, but their animals are, and probably the lesson of that and other occasions has taught them to leave the elephant behind when going to battle. The lesson was quite as pointed as the one of overturning their war-boats by the swell of a steamer, and you can be sure it has not been forgotten."

The scenery began to change as they passed the locality of this one-sided battle; the flat banks disappeared in many places, and low hills came into view, and by-and-by the low hills changed to higher ones.

Most of the hills were wooded, and the low ground, wherever it occurred, was covered with rice or banana fields, or perhaps with custard-apple and mango trees. Occasionally they passed heaps of firewood that had been piled on the banks for the use of the steamers, exactly as it is piled on the banks of the Mississippi, and whenever they stopped to take in fuel the process of "wooding up" reminded the Doctor very forcibly of the same operation on the great river of North America.

Among the odd craft they met was one that had a monkey and a



A COMPOSITE CREW.

parrot as part of the crew; the parrot was seated on the top of the mast, while the monkey amused himself by climbing over the sail and displaying a good deal of general activity. Evidently he desired to drive the parrot from her perch, but had a wholesome respect for her sharp and powerful beak.

Where the hills came down to the edge of the river there was now and then a water-fall glistening among the foliage, and dashing its white spray over the rocks. The most of these cascades were small, and the boys observed that all the larger tributaries of the Irrawaddy joined the great stream through level plains.

At one of their halting-places a native boat lay close to them, and the odor that rose from it was not altogether agreeable to the nostrils of the strangers. Frank inquired the cause of the disagreeable smell, and

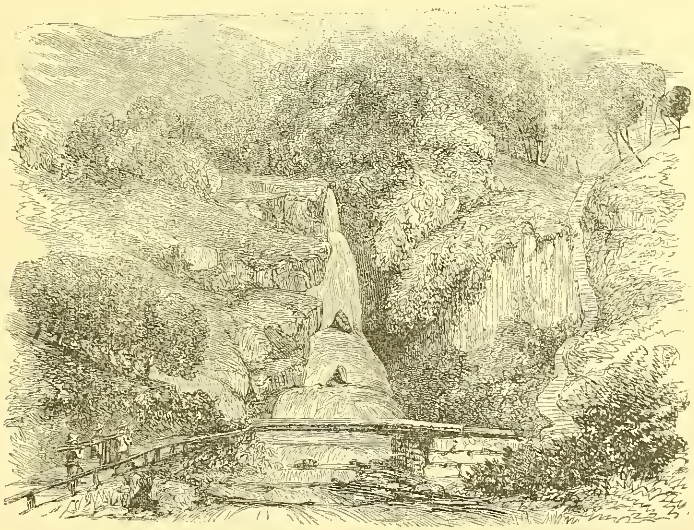
was told that the crew was probably at dinner, and regaling itself on *nagapee.*

Naturally he wished to know what nagapee was.

"It is a condiment that they mix with rice to render it more palatable," the Doctor answered, "and is a great favorite with the Burmese. It is made by mixing finely-chopped fish with certain spices, and other flavoring things, till it is in the form of a paste. The fish is first allowed to get a little old, or 'gamy,' and before they chop it up the smell from it is anything but agreeable to a European. The flavor increases with age, and the older it gets the more do the Burmese like it."

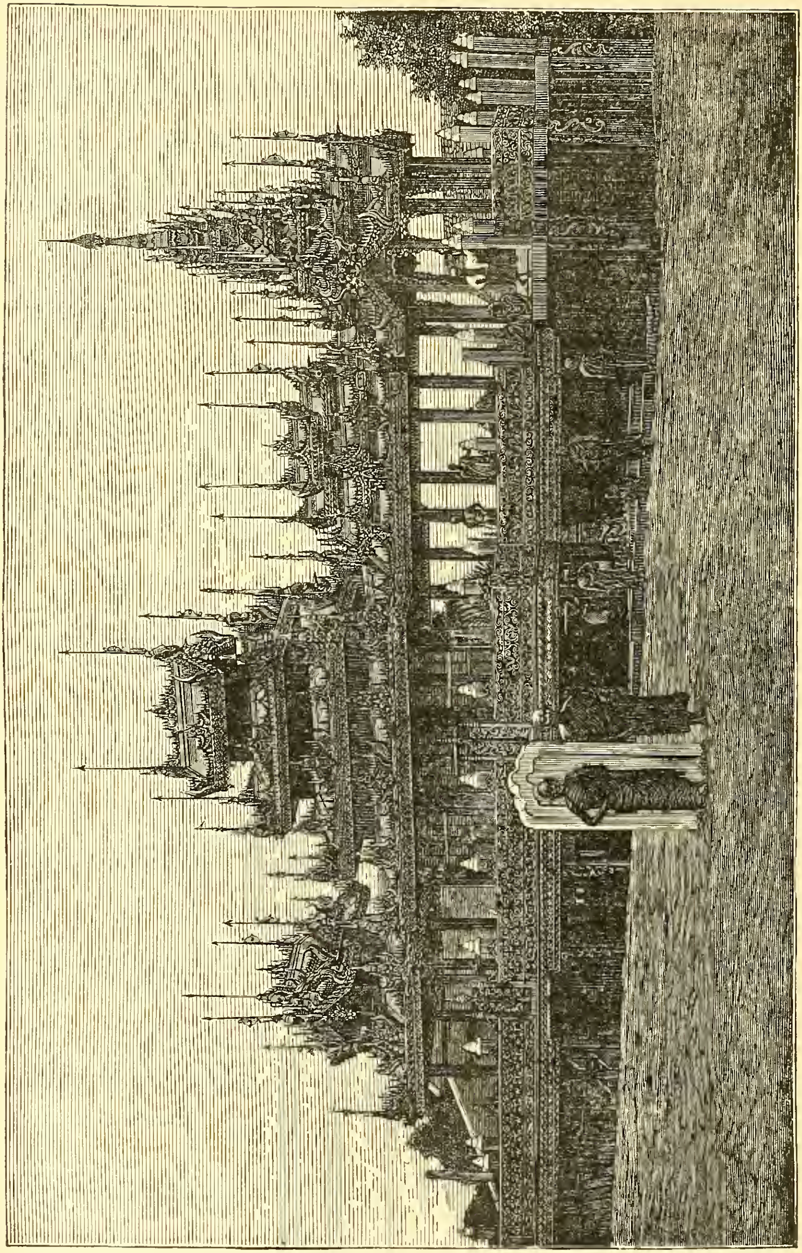
Frank and Fred concluded they would take their rice without nagapee for the future. The perfume that rose from the boat was all they wanted.

They stopped several hours at Prome, a large town that was said to contain some handsome pagodas and a Buddhist monastery, and was famous for its silk manufactories. One of the first persons our friends met on shore was a man whose accent was so decidedly American that Doc-



AN EASTERN WATER-FALL.

tor Bronson at once asked from what part of the United States he had come. He proved to be a native of Massachusetts, and was settled in Burmah as a missionary: he invited the strangers to visit his house, but, as their time was limited, they were unable to do so.



MONASTERY AT PROME.

This incident naturally led to a conversation concerning the American missions in Burmah, as soon as our friends were again on board the steamer, and moving up the Irrawaddy.

"Since the early part of this century," said the Doctor, "the American Board of Foreign Missions has been represented in Burmah; their stations are scattered throughout the country, and the labors of the missionaries have been attended with a great deal of hardship. Of late years they have fared better than they did when they first came here, as the authorities are less suspicious of them than formerly, and the comforts of life are more easily obtained. In the early days, and especially in the time of the first Burmese war, they were frequently arrested and thrown into prison: one of them, whose name is well known in the United States, was kept in chains for more than a year, and for a large part of that time he was under sentence of death."

One of the boys asked who this missionary was.

"He was Doctor Judson—Adoniram Judson," was the answer; "he came to Burmah in 1812, and died in 1850. He was two or three times in America between those years, and he died on a voyage from Rangoon to the Isle of France, where he was going on account of his health. He did a great deal for the advancement of the Burmese; he learned the language, and prepared a Burmese-English dictionary, together with a good many translations. The dictionary he made is the one now in use, though it has been considerably increased by other scholars.

"His imprisonment and sentence to death was owing to the suspicion that he was in secret correspondence with the English, who were then at war with Burmah. He and his wife were living at Ava, which was then the capital. At the time the war began, when the news came of the fall of Rangoon, the king was very angry, and ordered the arrest of three Englishmen residing there, and also of Mr. Judson. The prisoners were bound with cords, and then led away; on reaching the prison they were loaded with chains, and all four were fastened to a bamboo pole, so that if any one moved in the least degree he was sure to rouse his companions.

"Mrs. Judson was arrested at the same time, and ordered to remain a prisoner in her own house. Here she was kept for several days, and she obtained her release by making a present to the governor of the city; then she set about obtaining the liberty of her husband and the other prisoners; but all that she could accomplish was to secure a modification of the severity of their treatment. As often as she was allowed she went to the prison, but she was generally stopped at the door, and could only talk with her husband with an armed guard standing between them.

MRS. JUDSON VISITING HER HUSBAND IN PRISON.

During the time of his captivity she wore the Burmese dress, so as to attract as little attention as possible when going about the streets.

"This imprisonment lasted nearly seven months, and then suddenly one day the prisoners were removed to a village several miles back from the river, and consigned to the 'death-prison.' They expected to be burnt to death, but for some reason the king hesitated to give the order, probably through fear that the British might make severe retaliation. Here they were kept six months, till the English succeeded in bringing the war to a close, and humiliating the king. All the prisoners were released; but the most of them died not long after, in consequence of their sufferings. Mrs. Judson had remained as close as possible to her husband during his captivity, and only lived about a year after his release. She died at Moulmein, during his absence at the capital to assist the British Commissioners in arranging a treaty with the king."

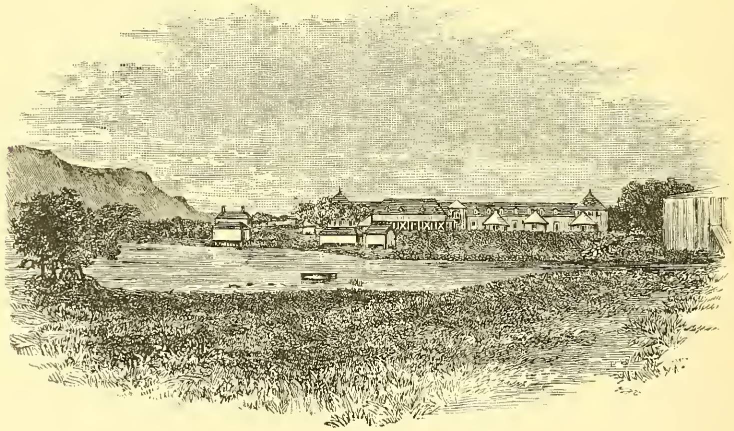
MRS JUDSON TEACHING A CLASS OF NATIVE CONVERTS.

CHAPTER XIV.

UP THE IRRAWADDY.—MANDALAY.—AUDIENCE WITH THE KING OF BURMAH.

FROM Prome to Thayetmyo the voyage was without any incident of importance. Our friends had made the acquaintance of two or three English officers who were on their way to the military post at Thayetmyo, and just before reaching the landing the three Americans were invited to visit the barracks or cantonment. The invitation was accepted without hesitation.

The cantonment is on the frontier, between the native Burmah, or



BARRACKS ON THE FRONTIER.

Ava, and the British possessions, or rather it is on British soil very close to the line. On the other side there is a station for Burmese troops, but for more than half the time it is unoccupied, and when troops are stationed there they have no intercourse whatever with the English, through fear of losing their heads. The British barracks consist of substantial wooden buildings, and there are shaded walks and drives all around them, and numerous little gardens which are maintained by the soldiers.

There was nothing of any special interest in Thayetmyo, as it is only a small village, and derives its importance from being a frontier post; consequently the boys were quite ready to return to the steamer, which was announced to start down the river early in the morning, or as soon as it had landed the cargo it brought up and taken in a new one. The work of discharging and receiving cargo was kept up during the night, and a little after daybreak the strangers were travelling once more in the direction of Rangoon.

They were consoled for their failure to go to Mandalay by making the acquaintance of a fellow-passenger who told them a great deal about the capital of Ava and its king, or rather about its former ruler, King Mounglon, as he had not been there since the throne fell to Theebaw. This gentleman, Captain Blakeley, had lived at Mandalay in the official service of the British Government, and was on fairly pleasant relations with Mounglon; he went frequently into the royal presence, and had been consulted at various times on matters of importance to the Burmese Government.

While he was telling the Americans about the Burmese court and other things of interest, Frank and Fred made sure of their memories by taking notes of the conversation: in the latter part of the voyage they wrote out in full what they had briefly set down, and then read the matter over to their polite instructor. He complimented them on the accuracy of their report, and said he could not have done better than they in putting his own words on paper.

Here is the report, which is supposed to be in the words of Captain Blakeley:*

"You must know, to begin with, that the Kingdom of Ava, or Burmah, changes its capital very often. Five hundred years ago the city of Ava was made the capital, and it remained so for nearly three centuries. Monchobo was the capital from 1740 to 1782, and then the seat of government was taken to Amarapoora, where it remained till 1819, when it went back to Ava. Twenty years later Ava was destroyed by an earthquake, when the court moved to Monchobo, later to Amarapoora, again to Ava, and last (in 1857) to Mandalay. These cities are only a few miles from each other, and whenever the capital is changed the inhabitants of the old city are mostly taken along to start the new one. In 1855 the site where Mandalay stands was a series of rice-fields; now a city of

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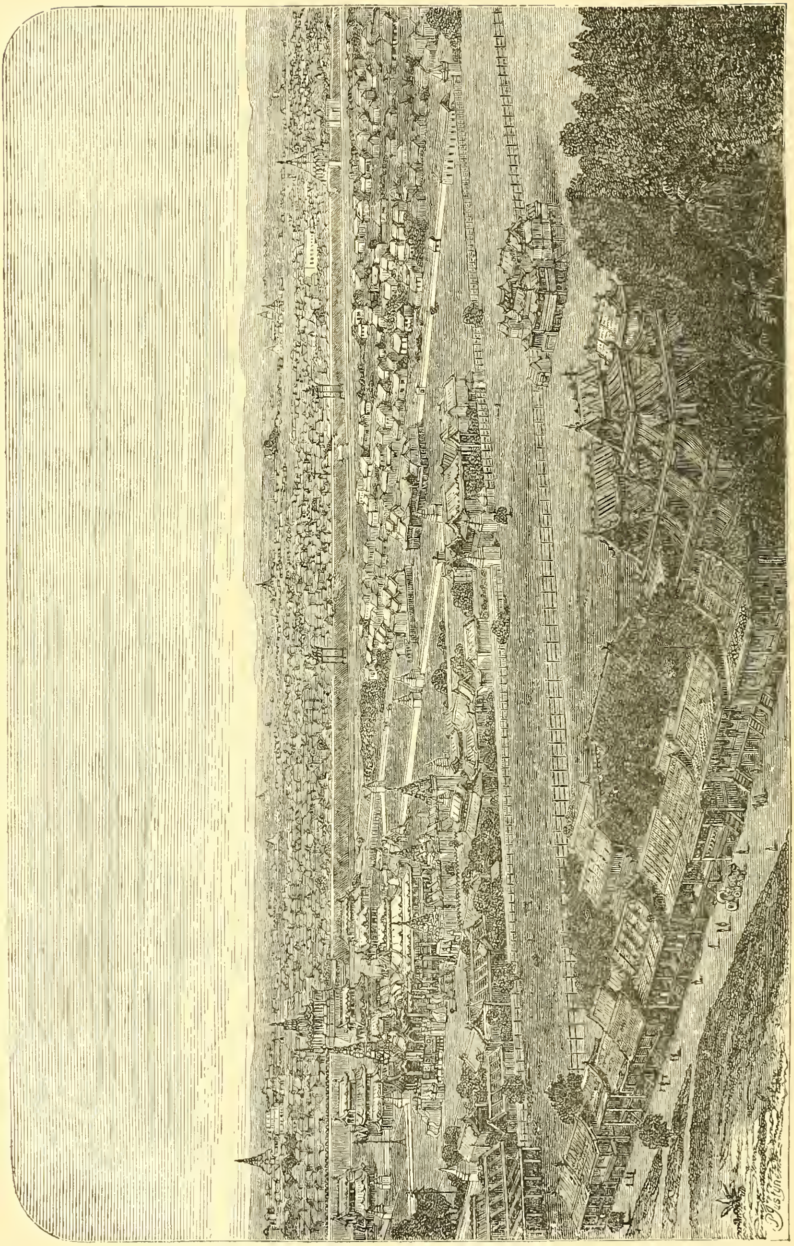
* Abridged from "The Land of the White Elephant," by Frank Vincent, Jr., published by Harper & Brothers.



VIEW OF MANDALAY, CAPITAL OF THE KINGDOM OF AVA, OR BURMAH.

100,000 inhabitants covers the ground, and is enclosed by substantial walls of brick and mud.

"You can't see much of Mandalay as you approach it by steamer, as it lies on a level plain, and the houses near the river are not the best that the city contains. You will be reminded of Rangoon, or Bangkok, as the spires of the temples and pagodas are thickly surrounded by foliage, and it is only when you have climbed to the top of a temple, and looked

BOAT DRAWN BY A BULLOCK.

down from that elevation, that you begin to have an idea of the extent of the city. In the rainy season a great part of the plain around Mandalay is flooded, and then the natives go about in canoes and on rafts. Sometimes you see them in boats drawn by bullocks or buffaloes; the unhappy animals are forced to wade where the water is a foot or two in depth, and

where there is a scarcity of harness they drag the craft behind them by means of ropes tied to their tails.

"In the city itself most of the houses are on posts or piles, to avoid the effects of the inundations; the best of them are two stories high and of brick or framed timber; but there is a large number of only one story, and this is invariably the case with the smaller dwellings of the natives, which are constructed of bamboo. These houses burn easily, and sometimes they have fires that cause immense destruction, and devastate acres and acres of ground. The only consolation after such a fire is that the houses are not costly, and the sufferers can easily be lodged again.

"The population of Mandalay is principally Burmese, as might be expected; but there are great numbers of Chinese living there, and most of the commerce of the place is in their hands. Then there are many Malays, and people from other parts of Asia; as for the Europeans, there are not more than twenty or thirty, and they include a few men engaged in trade, two or three missionaries, and the English resident and his official assistants. At present there is not a single European in Mandalay, as you are already aware, on account of the danger of war with King Theebaw.

"The city and its suburbs cover several miles of ground, but the city itself is a mile square, with high walls enclosing the four sides, and each wall pierced with three gates. Outside the wall there is a deep ditch that is kept constantly filled with water, and evidently it is the intention of the king not to be taken by surprise by having his ditch empty. The soldiers of the king are stationed at all these gates to preserve order, and see that no hostile force enters the sacred precincts, but they would be a poor match for European troops. Their uniform is a combination of the English and Burmese dress; they are almost always barefooted, and their guns are a mixed lot from all parts of the world, and generally of very old pattern. Some of them carry heavy swords that resemble butchers' cleavers, and others are armed with swords and lances.

"The king has a great many titles, and some of them have a comical sound in Western ears. Here is a fair sample of them:

"His Golden-footed Majesty, Ruler of the Sea and Land, Lord of the Celestial Elephant and Master of many White Elephants, Owner of the Shekyah, or Indra's Weapon, Lord of the Earth and Air, Lord of the Power of Life and Death, and Great Chief of Righteousness.

"It is no wonder that he considers himself of great importance when he has all these titles applied to him, and many more besides. Some of them sound like burlesque, particularly the one that calls him ruler of

the sea and land; he has no seaport of any kind whatever, and all his commerce with foreign countries must descend the Irrawaddy through British territory, or be carried overland to China.

"The government is a despotism of the most emphatic sort; the king has the power of life and death over all his subjects, and may order any one beheaded without the slightest reason, and at a moment's notice. It is said that in old times, whenever the court ceremonies were going on, if any person made the least mistake, even so much as taking a short step when he should have taken a long one, or *vice versa*, the king commanded him to be beheaded, and he was taken outside the building and decapitated instantly. They are not so bad as that in these latter days, though King Theebaw seems to be coming quite near the ancient mark.

"The form of government is about the worst that could be imagined; the king takes the revenue, or so much of it as reaches him, and spends it in any way he pleases, and when his pocket gets empty he makes a fresh collection. Some of the districts up the river are subject to frequent levies; the inhabitants have several times refused to pay, but it seems that they are dependent upon the lower country for their supply of salt, and whenever their taxes do not come promptly, the king prohibits the exportation of salt to them. This is sure to bring them to terms; but it is now rumored that they have found a mountain of salt there, and if so, they will be likely to declare themselves independent.

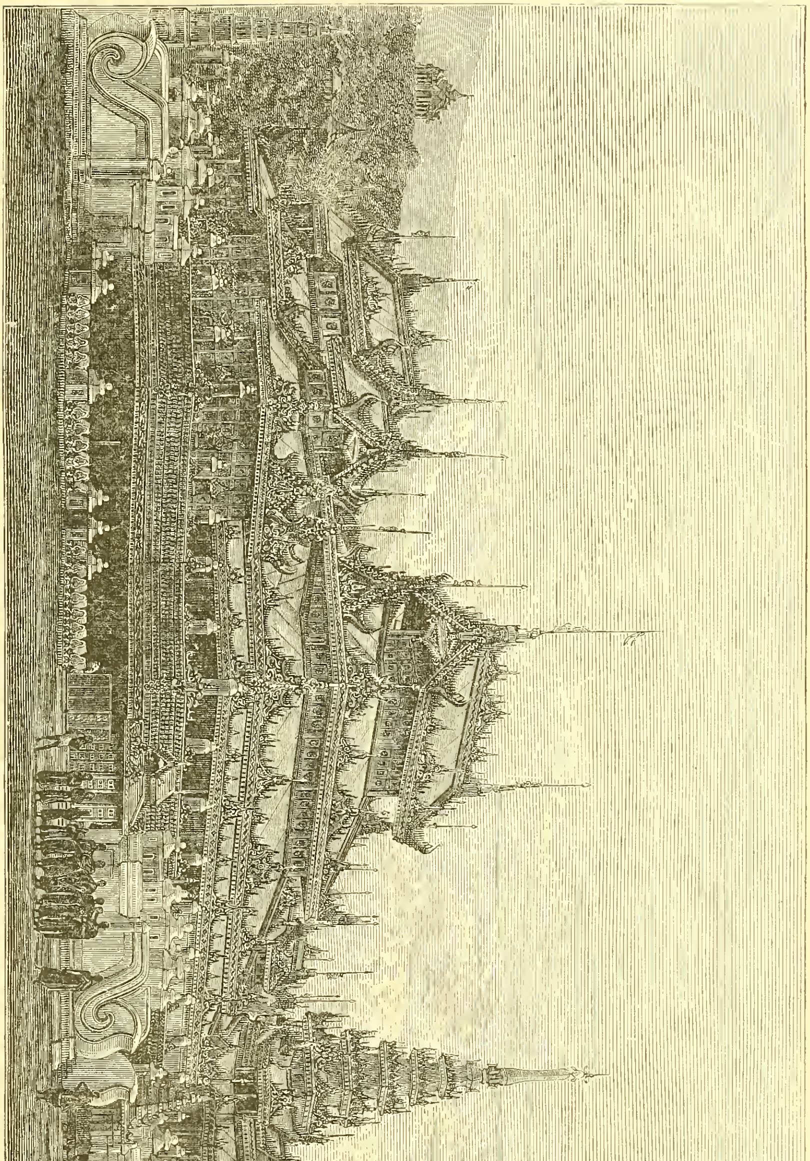
"My first interview with the king was a more ceremonious affair than subsequent ones, and there were many novel features connected with it. The audience was appointed for ten o'clock in the forenoon, and I was there promptly with my introducer; when we got to the palace we were told that we must wait till eleven o'clock, as his majesty was just then occupied with the royal astrologer, who had made some important discoveries in the positions of the stars. There was no help for it, and we waited; but in the mean time we had interviews with some of the ministers, and other persons attached to the court, so that the period of waiting was not altogether lost.

"Most of the ministers do not receive any salaries, but are supported by bribes and extortions. They try all cases that are appealed to them, and take ten per cent. of the amount involved as their compensation; it often happens that they take the whole money, and the winner of the case is told that he must be satisfied with the honor of defeating his adversary. The king pays his troops and officers in goods that he buys of the merchants, and if they wish to convert them into cash, they must sell

at half price, or even less. In fact, the whole government is a system of bribery and corruption, and the wonder is that it has kept up so long.

"The king rarely goes out of his palace, as he is constantly fearful that some ambitious relative will endeavor to supplant him if he leaves home even for a single hour. The royal palace covers about seventy acres of ground, and is surrounded by two walls, the inner wall being thirty feet from the outer one. The palace is a gaudy sort of building, with a great deal of carved wood-work around the eaves of its many roofs and stories, and having poles for bells and flags at every corner and angle. It looks better at a little distance than when close at hand, as it is not always kept in good repair; and since the king stays inside the most of the time, he can hardly be expected to know enough about the roofs and outer walls to give the proper orders concerning them. The gates of the palace are very strong, and made of beams of teak fastened together with iron bolts. They could not offer much resistance to artillery, or even to a keg of powder exploded against them, but could hold out for some time against anything that an ordinary force of Burmese could bring forward.

"Everybody who goes to be presented to the king must carry a gift of some kind, as this is the custom of the country. I was aware of the custom, and so came provided with a handsome travelling-clock, by one of the best makers in Paris; the prime-minister looked it over carefully to see that no dangerous explosive was contained in the clock, and then said it was quite appropriate to the occasion. When the time came for the audience, the minister led the way to a stone staircase, and motioned for us to leave our shoes, which we did. Then we ascended the staircase, and were admitted to the reception-room, and shown to our places. A few paintings adorned the walls, and at one end there was a green curtain with an opening about ten feet square; through this opening we could see a stage about a yard in height, and there were steps leading from the floor of the room to the stage. At the top of these steps there was a velvet cushion, on which a handsome opera-glass was lying, and I readily guessed that this was the station of the king during the audience. The party for the audience consisted of eight or ten persons; two or three princes of the royal family were on the right, facing the cushion; then came the prime-minister, then myself, and next to me my introducer; then two missionaries and a couple of merchants, if I remember correctly. Behind us were some Burmese officials, who had been recently appointed, and had come to thank the king, and make him the customary presents in token of their recognition.



THE ROYAL PALACE AT MANDALAY.

COPY OF AN OLD BURMESE PAINTING.

"In front of each person there was a little stool or bench, which held the present he had brought; the master of ceremonies arranged us and our presents in the proper order, and we were specially cautioned to keep our feet behind us, as it is very improper to allow a royal personage to see the soles of your feet under any circumstance. The Europeans were seated on the floor in a half-kneeling attitude, while all the natives were prostrate, with their faces within an inch of the floor, and their feet as far aft as it was possible to get them. They kept their eyes turned downward, and I very much doubt if any of them saw enough of the king to say how he looked, and what he did.

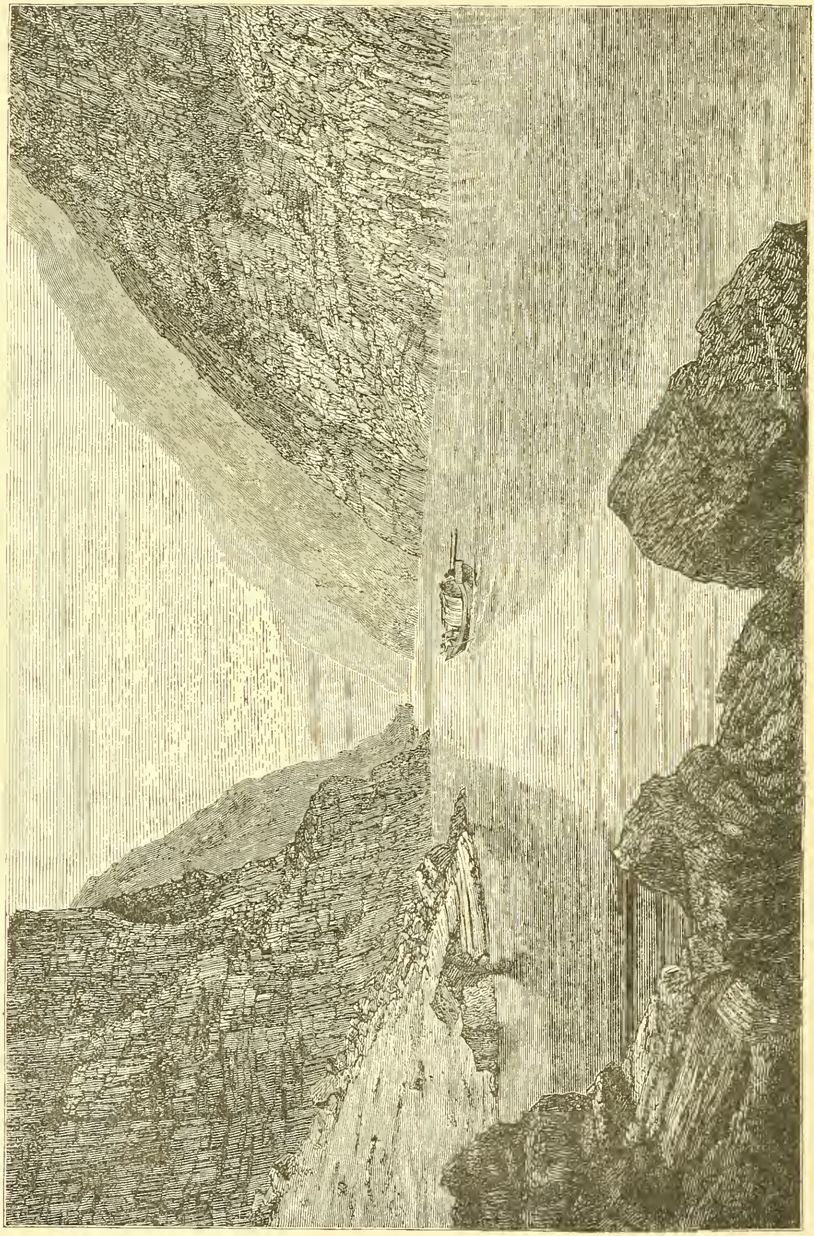
"The king—remember, I am speaking of Mounglon and not of the present ruler, Theebaw—came forward at the sound of a couple of blows on a drum, and laid himself down against the cushion with one side of his body toward the audience. Then he picked up the opera-glasses and deliberately surveyed the entire party one after another, though we were not more than twenty feet away from him. I suspect that the glasses were something new, and he was desirous of using them as much as possible, since he did not appear to be near-sighted. When he had finished his inspection he waved the glass to indicate that the performance might go on, and on it went. The king's secretary read the names and occupations of the various persons to be presented, together with a list of the presents they had brought.

"Then the business of each person was stated; those who had petitions to present handed them forward, and they were referred to the proper minister; newly-appointed officers, who had brought baskets of fruit, were very quickly disposed of, and then the king talked with me, through an interpreter, concerning England and its customs. He hoped I would enjoy my stay in Mandalay, and said he had found the English very pleasant people, and most agreeable neighbors. The last remark was more polite than truthful, as he could hardly be expected to regard with favor the foreigners who have possessed themselves of two-thirds of ancient Burmah, and may fairly be suspected of wanting to capture the rest.

"The audience lasted about half an hour, and was brought to an end by the king suddenly rising and going out of the room. One of the queens had been standing behind the screen, and fanning his majesty with a long-handled fan made of peacock's feathers. As soon as her lord and master walked away, she satisfied her curiosity by seeing what kind of beings the strangers were. She came to the opening in the screen, and as she stood there we had a full and fair view of her. Perhaps it was due to the fact that she was very pretty that she thus allowed us to see her, but of this I cannot be at all certain. At any rate she was exceedingly handsome, and I was told that the other three queens were as good-looking as herself. The king has something more than a hundred wives, but only four of them hold the rank of queens.

"We rose as soon as the audience was ended, and went down the steps where we had left our shoes. When we were all re-shod, I went with my introducer to see the famous white elephant, which was standing in a stable not far away. He was not particularly white—in fact, his name was the whitest part of him. His ears were slightly spotted, and so were the front and top of his head, while the rest of him was about the complexion of the ordinary elephants. He had a gorgeous lodging all to himself, but he was said to be of a bad temper, and, in spite of his noble character, he was chained to a post as any ordinary beast might be. I fancy he would have made things very lively if he had been divested of his chains and allowed to walk around freely.

"Burmah shares with Siam the honor of being one of the lands of the white elephant, and some of the wars between the two countries have grown out of disputes relative to the possession of these coveted beasts. They are held in great esteem, partly on account of their being the habitations of Buddha in his numerous transmigrations, and partly because their possession is held to be synonymous with good-luck both in peace



MOUNTAIN GORGE ON THE UPPER PART OF THE RIVER.

and war. When a white elephant dies he is buried with royal honors, and the whole nation goes into mourning.*

"So much for Mandalay and the King of Burmah. It is a pity you cannot go up to the city, and also to Bhamo, three hundred miles farther, where steamboats can run nearly all the year. Between Mandalay and Bhamo the scenery is more interesting than on the lower part of the Irrawaddy; in many places the mountains come close down to the river, and just before you reach Bhamo there is a narrow gorge where the river flows for a dozen miles or more between steep mountains several hundred feet high. Some of the cliffs are nearly perpendicular, and the river is penned in so closely that the current is very swift; one mountain, nearly a thousand feet high, is called 'Monkey Castle,' on account of the great numbers of monkeys that are frequently seen around it, and there is another where thousands of screeching parrots make the air resound with their unmelodious calls.

"On an island some distance above Mandalay there is a Buddhist monastery, where the monks keep some large fish in a tank, and have made them so tame that they come when called to be fed, and will allow their keepers to stroke their backs. They belong to the dog-fish family, and their mouths are capacious enough to take in anything that their stomachs will hold.

"Bhamo used to be an important place of trade, as it is quite near the borders of Yunnan, the frontier province of China. For the last fifteen or twenty years there has been a rebellion in this part of China, and the trade has greatly diminished; the Chinese Government does not appear able to suppress the rebellion, and as long as it lasts there will be very little trade with Bhamo. The importations from China consist of tea, silks, cotton cloths, and earthen-ware, and the goods for which these articles are exchanged are mostly of European manufacture; and, by-the-way, let me say that the chief use the Burmese make of tea is to form a salad of it, and not to drink it in a decoction as most other nations do."

This was the end of the conversation about the part of Burmah that our friends were unable to visit. By the time the account had been written out, and received a few verbal corrections, the tower of the Shoay Dagon, or Golden Pagoda of Rangoon, was in sight, and the voyage up and down the Irrawaddy was fast drawing to a close.

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* For a full account of the white elephant, and the reverence he receives, see Part II. of "The Boy Travellers in the Far East," Chapter XVIII.

CHAPTER XV.

LEAVING BURMAH.—CAPTURING A SEA-SNAKE.—STORIES OF THE SEA-SERPENT.

"WHERE shall we go next?" one of the boys asked, as soon as they were safe on shore at Rangoon.

"That will depend on circumstances," the Doctor answered. "India and Ceylon are before us, and we must first see to which we can get with the least trouble and delay. We can find ships for Calcutta or Madras, I presume, and perhaps we may hit upon one that is ready to go to Ceylon. The latter would be preferable, as we can easily get from Ceylon to India, whereas it might be out of our way to go to Ceylon after seeing the peninsula of Hindostan. We will see what can be done."

The trio proceeded to their banker's, and asked about the possibilities of departure.

To their delight they ascertained that there was a steamer ready to leave for England with a cargo of rice, and she would stop for coal at Point de Galle, in Ceylon. She had accommodations for a few passengers—the banker they were visiting was agent for her—and it required but a short time for the whole business to be arranged. Doctor Bronson and the youths were booked for Point de Galle, and returned at once to their hotel to be ready to go on board as soon as the sun rose the next morning.

The steamer sailed promptly, and by noon they were out of the river and leaving the shores of Burmah behind them.

The general direction of the ship was toward the south-west. The captain told the boys that on the morning of the second day out they would pass the Andaman Islands, but would not stop there; the Andaman Islands, he explained, were a long narrow group that extended nearly parallel to the coast, and belonged nominally to British India, though only a few of them had been occupied. "The remarkable things about these islands," he continued, "are the inhabitants. They are different from any other known race in the world, and their lan-

COAST OF THE ANDAMAN ISLANDS.

guage has no resemblance to that of any part of India or the peninsula of Malacca.

"They are small in stature, being rarely more than five feet in height, and they have slender limbs, woolly hair, flat noses and thick lips, so that they resemble the negro more than any other race. Their skins are black, and the only clothing they wear is a thick plastering of mud, which they put on to prevent the insects biting them. When it cracks, or becomes worn in spots, a fresh roll in the mud gives them a new suit of clothes, and I doubt if there is any place in the world where a man can be clad more cheaply than in these islands, provided he follows the fashions of the natives. They never cultivate the soil, but live entirely by fishing; and one of their favorite amusements is to paint their faces with red ochre."

Frank thought it would be very interesting to have a look at this strange people, but the captain shook his head, and continued:

"They will not hold any intercourse with strangers, and whenever a ship goes there the natives flee to the interior. If a ship is wrecked on the coast, and the crew falls into the hands of the natives, they are usually

killed; it used to be said that the natives were cannibals, and for a long time the story was believed; but later investigation shows that it is untrue. But their bad reputation and strange appearance caused it to be reported that the people of the Andaman Islands were monsters; in the time of Marco Polo this story was current, and the dog-headed men of Angamanain, of which he writes, are generally believed to have been the inhabitants of the Andaman Islands."

As the captain had predicted, the islands were visible at daylight on the second morning; Frank and Fred were up early to have a look at them, and, while they steamed steadily onward, the boys indulged in numerous speculations as to the strange region of the world they were now in.

Suddenly the first officer of the ship called to them to see a curiosity. The inspection of the islands was abruptly terminated, and the boys went to where the officer was standing.

The men were occupied with their daily task of washing the deck of the steamer; half a dozen were busily scrubbing with old brooms and "swabs," and two were engaged in hoisting water over the ship's side by means of a large bucket. At the last haul the bucket had brought up a snake that was wriggling about on the deck in the hope of getting away, and he kept opening and closing his mouth as though he would like to revenge himself on somebody or something by a bite.

Fred observed that the men kept at a respectful distance from the snake, as though they were afraid of him; consequently, he followed their example, and did not venture closely.

"Here's a sea-serpent for you," said the officer. "If you want him you're welcome."

Neither of the youths cared for the property in its present condition, and so the offer was declined. Frank asked if it was a genuine sea-serpent.

"As near as I've ever seen," was the reply; "but it isn't what you commonly understand by the sea-serpent. This is a sea-snake, and he is found only in the Indian Ocean and the waters connected with it. They are generally not far from land, but I've seen 'em one or two hundred miles away from shore, so it's pretty certain they spend most if not all their lives in the water."

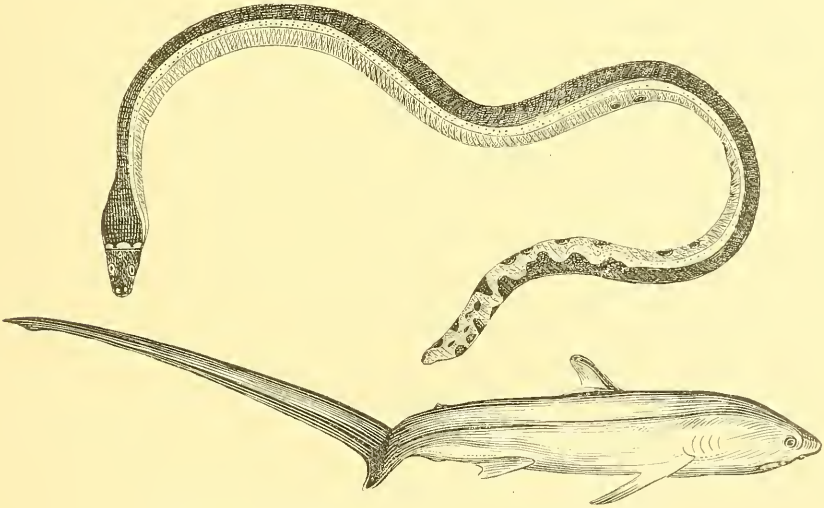
"His bite is said to be poisonous," he continued, "and for that reason nobody wants to go near him. As soon as you've seen all you want to of him in his live state we'll kill him, and then you can look at him closely."

Just then Doctor Bronson came on deck, and after a brief survey of the reptile his curiosity was satisfied. Then the snake was killed by a blow from a handspike, and stretched on the deck.

Frank measured the reptile, and found him a trifle over three feet in length. The head was quite broad and long, and the neck slender. The body was covered with fine scales, and the tail was formed by a gradual thinning of the body without any reduction of height. The Doctor said the tail was a close resemblance to that of the thrasher, or fox-shark, and he added that the latter had sometimes been mistaken for a sea-serpent.

While Frank was measnring the snake, Fred was looking over the side of the ship in the hope of seeing another. Suddenly he shouted,

"Here! here! come quick! A snake! a snake!"



SEA-SNAKE OF THE INDIAN OCEAN AND FOX-SHARK.

Doctor Bronson and Frank ran to the side, and looked in the direction where Fred pointed.

There, sure enough, was a snake swimming with his head a couple of inches out of the water, and taking things very leisurely. He propelled himself with his tail, which he swung easily from side to side, exactly as we see with the great majority of fishes. He made very little ripple on the water, and it required sharp eyes to discover him. They watched him as he swum away from the side of the ship, and in a very short time he was out of sight.

Meantime, the captured snake had been thrown overboard, as no one cared to preserve it, and the men did not wish to keep it on deck. "These reptiles come to life sometimes after they're killed," said one of the old mariners, "and before you know it they lay hold of your foot if it is the first thing handy."

The Doctor and the youths walked aft, and seated themselves under the awning, where they could look at the receding shores of the islands. A few moments after they were seated, Frank asked the Doctor if he had ever seen a real sea-serpent.

The Doctor smiled, as he answered in the negative.

"But is there such a thing as a sea-serpent?" Frank persisted.

"That is a direct question," the Doctor responded, "but I am not able to answer it directly. Before I say yes or no I must make an explanation, or rather I will tell you what is known on the subject, and then you may make the answer for yourselves.

"It is the fashion of the time," he continued, "to laugh at any one who thinks he has seen what may be a sea-serpent. On several occasions reputable ship-captains have come forward with their officers and crew to make oath to what they had witnessed, and their chief reward has been to be ridiculed by the newspapers generally: they have been treated as deliberate liars, or it is hinted that they were intoxicated at the time they supposed they were looking at a sea-serpent. The result has been to make mariners reluctant to give any kind of testimony concerning the possible existence of a sea-serpent, through fear of being treated as impostors.

"About a year ago, while one of the steamers of the Peninsula and Oriental Company was making its voyage from Bombay to Aden, two or three passengers, who were on deck early in the morning, saw what exactly resembled a snake, sixty or eighty feet long, thrashing the water about half a mile from the ship. They called the attention of the captain to it, and then that of the officer on watch; the captain turned for a few seconds in the direction indicated, and then looked away, and, as he did so, he instructed the officer of the watch to keep his eyes straight ahead. The passengers afterward drew up a statement of what they had seen, and asked the captain to sign it; he refused to do so, and furthermore ordered his officers and men to make no mention of the affair in any way whatever. He gave as an excuse for his action that, no matter how seriously and carefully he made his statement, he would be ridiculed for it, and his veracity and sobriety questioned, and he did not care to be thus treated. 'If a snake should come on board,' said he, 'and eat

up half the crew and passengers, I wouldn't say it was a snake, unless I could take him along to prove it, and perhaps then I wouldn't.'

"The sea-serpent described in ancient histories is undoubtedly fictitious, and so is the one referred to in the nautical song, somewhat like this,

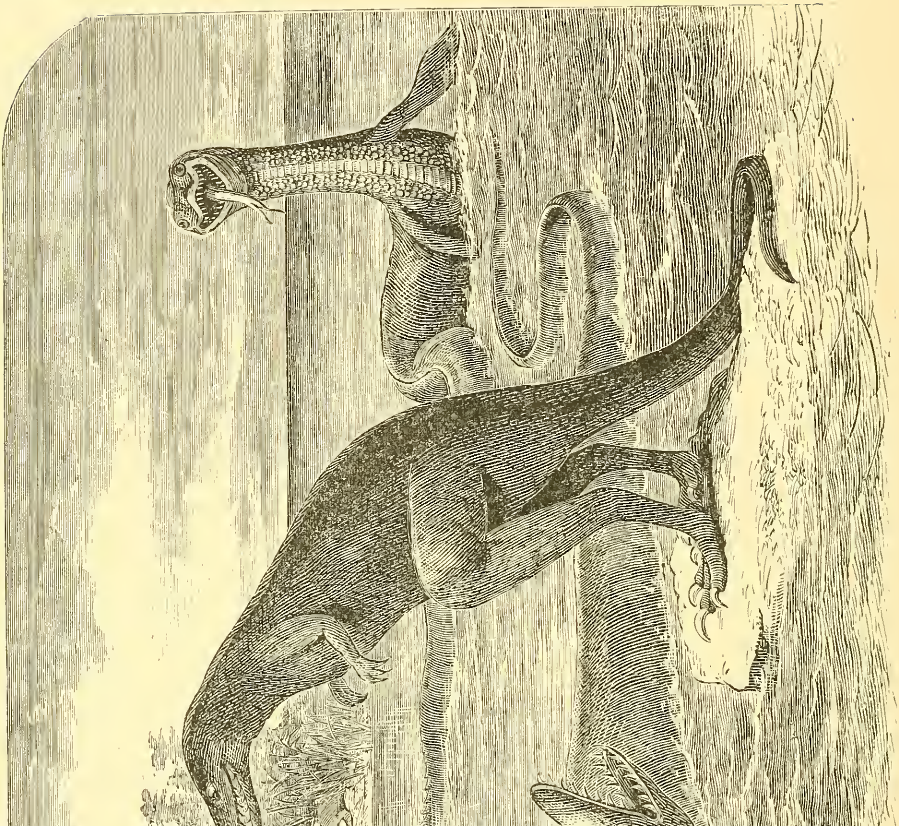
"'From the tip of his nose to the end of his tail
Is just nine thousand miles.'

"We will dismiss everything of antiquity, and also the serpent of the foregoing ballad, and come down to modern times. Naturalists are now pretty well agreed that the existence of the sea-serpent is a possibility; the celebrated Professor Agassiz said that if a naturalist had to sketch the outlines of an ichthyosaurus or plesiosaurus from the remains we have of them, he would make a drawing very similar to the sea-serpent as it has been described. The race is generally believed to be extinct, but he thought it probable that it would be the good-fortune of some person on the coast of Norway or North America to find a living representative of this type of reptile.

"Fossil remains of reptiles that lived ages and ages ago have been found by the geologists, and their former existence is proved beyond a doubt. For example, we find that on the coast of North America there were reptiles that could swallow a full-sized man as easily as a frog swallows a fly. A restoration of the fossil reptiles that once flourished in the State of New Jersey would not make that State a pleasant one to reside in, and the same may be said of the plains of Kansas and other parts of America. Look at this picture of the reptiles of New Jersey, and then say if you would like them for neighbors.

"If such things have lived, why is it impossible for some members of the family to be prowling around to-day in the depths of the ocean? If the size of the monsters causes us to be sceptical, let us remember that there are inhabitants of the deep that quite equal them in bulk. Whales that exceed eighty feet in length are not uncommon, and when we consider their great depth in proportion to their length, we can easily have enough to make a first-class sea-serpent, and leave a few tons to spare.

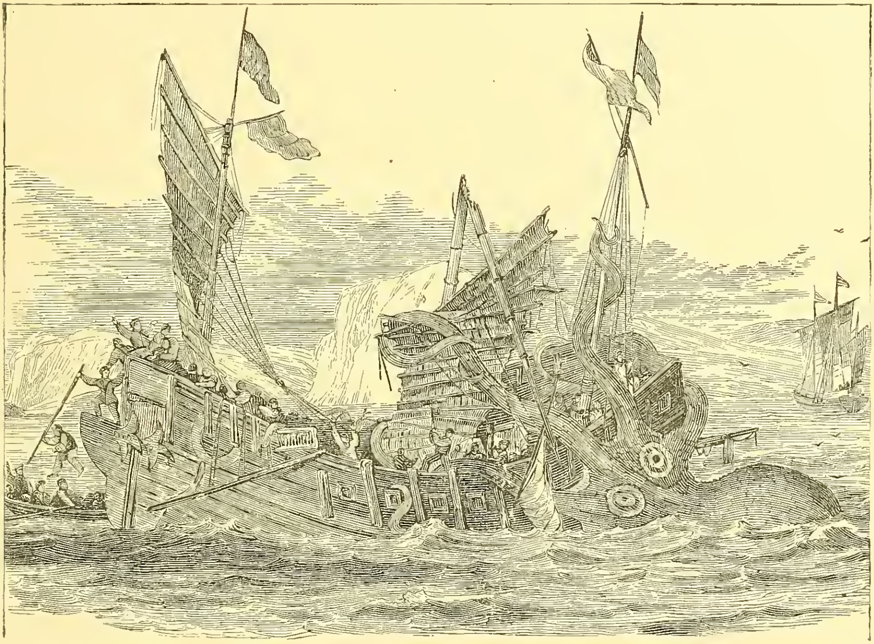
"Then there is the colossal cuttle-fish which abounds in the Indian Ocean and adjacent waters; they have been found with arms twenty-eight feet long and two feet in diameter, and, as they have eight of these arms, the aggregate length of all of them would surpass any respectable sea-serpent. Fishing-boats and canoes are sometimes attacked by them, and it is said that they have been known to overturn a two-masted junk.



RESTORED FOSSIL REPTILES OF NEW JERSEY.

In the year 1878 the steamer *Yang-tse*, of the French Mail Company, while coming down the China Sea, ran into one of these cuttle-fish during the night, and the shock of the blow was so great that it was felt throughout the ship.

"Among the islands of the Indian Ocean the cuttle-fish is the great dread of the natives, and on the coast of Madagascar the negroes will not venture to swim near rocks or cliffs. They will tell you any number of stories of men that have been pulled under water by these fish and drowned; and from their great dread of the fish, it is very evident that their stories are not works of fiction.



CUTTLE-FISH ATTACKING A CHINESE JUNK.

"So much for the huge inhabitants of the deep that we know about; let us come to the sea-serpent himself, and investigate the cases in which he is said to have been seen.

"The Rev. Paul Egede, missionary to Greenland in the eighteenth century, says as follows:

"'On the 6th day of July, 1734, there appeared a very large and frightful sea-monster which raised itself so high out of water that its head reached above our main-top. It had a long, sharp snout, and spout-

ed water like a whale, and very broad flappers. The body seemed to be covered with scales, and the skin was uneven and wrinkled, and the lower part was formed like a snake. After some time the creature

CAPTAIN LAWRENCE DE FERRY'S SEA-SERPENT.

plunged backward into the water, and then turned its tail up above the surface, a whole ship-length from the head.' "

"Perhaps it was only a whale he saw," Frank remarked.

"I should have said," responded the Doctor, "that the good missionary was as familiar as an old whaleman with the appearance of the whale and his kindred, and furthermore that his book shows him in other things to have been a very careful and exact observer.

"Bishop Pontoppidan, of Norway, devoted a good deal of time to the investigation of the sea-serpent, and personally sought out all the mariners he could hear of who had seen one of the monsters. Here is the story told by Captain Lawrence de Ferry, of Bergen, Norway, and he, with two of his sailors, made oath to its correctness before a magistrate:

"'The latter end of August, in the year 1746, on my return from Trondhjem on a very calm and hot day, within six miles of Molde I heard a kind of murmuring voice from the men at the oars, and observed that the man at the helm kept off the land. I inquired what was the

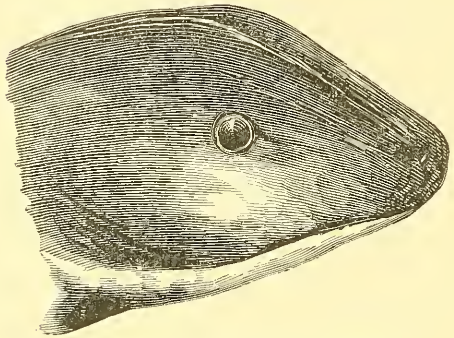
matter, and was told that there was a sea-snake before us. I then ordered the man at the helm to keep to the land again, and to come up with this sea-snake, of which I had heard so many stories; as the snake swum faster than we could row, I took my gun and fired at it; on this he immediately plunged into the water. We rowed to the place where it sunk down, thinking it would come to the surface; however, it would not. The head of this snake, which he held more than two feet above the surface of the water, resembled that of a horse. It was of a grayish color, and the mouth was quite black and very large; it had black eyes, and a long white mane that hung down from the neck to the surface of the water. Besides the head and neck we saw seven or eight coils or folds of the snake, which were very thick; and as far as we could guess, there was about a fathom distance between each fold.'

"Captain Little, of the United States Navy, in 1781, describes a snake he saw in broad day on the coast of Maine, in 1780. It was about forty or fifty feet long and fifteen inches in diameter, and he carried three or four feet of his length out of water. Captain Little ordered out his boat to pursue the snake, but they did not succeed in capturing him.

"Rev. Donald Maclean, a Scotch minister, describes a snake that he saw in 1808, which greatly alarmed his own crew and that of several fishing-boats that were out with him. In 1809 an American clergyman, who was out in a boat with his wife and daughter and another lady, in Penobscot Bay, saw a serpent that they estimated to be about sixty feet long, and as large as a sloop's mast. About this time the same snake, or one closely resembling it, was frequently seen in the neighborhood of Penobscot Bay, and a few years later (1817) a similar sea-monster appeared near Gloucester, Massachusetts, and was seen on many occasions and by great numbers of persons. The Linnæan Society of Boston took the matter up, and collected the testimony of as many witnesses as could be reached. It remained in sight all the way from several minutes to two hours, and at distances varying from thirty feet to a quarter of a mile. One man saw it moving across the bay at the rate of a mile a minute; another watched it for half a day, and says it had a head shaped like a rattlesnake's, but as large as that of a horse. One man saw it open its mouth, which was like a snake's; another said the body was rough and scaly; and another that it darted out its tongue at least a couple of feet. Its length was estimated all the way from forty to eighty feet, and its color was dark. Finally, the magistrate before whom the testimony was taken had an opportunity of seeing the monster, and his evidence corroborates that of the rest.

"In 1830 the sea-serpent appeared near Kennebunk, Maine, and was

seen by several persons. In 1845 he showed himself near Lynn, Massachusetts, and he had a great many observers, among whom were several of the old merchants and other solid men of Boston and its vicinity. He has appeared several times since then at various points on the New England coast, but has not been seen by many persons.



HEAD OF CAPTAIN M'QUHAE'S SERPENT.

"Later still we have the evidence of Captain Peter M'Quhae, commanding the frigate *Dædalus*, of the British Navy. He testifies that, on August 6th, 1849, in latitude 24° 44′ S., longitude 9° 22′ E., he and his officers and crew saw a sea-serpent. He thus describes it:

"'Our attention being called to the object, it was discovered to be an enormous serpent, with head and shoulders kept about four feet constantly above the surface of the sea; and as nearly as we could approximate by comparing it with what our main-top-sail yard would show in the water, there was at least sixty feet of the animal just under the surface, no part of which was used in propelling it through the water, either by horizontal or vertical undulation. It passed rapidly, but so close under our lee-quarter that, had it been a man of my acquaintance, I should have easily recognized his features with the naked eye; and it did not, either in approaching the ship or after it had passed our wake, deviate in the slightest degree from its course to the south-west, which it held on at the pace of from twelve to fifteen miles per hour, apparently on some determined purpose.

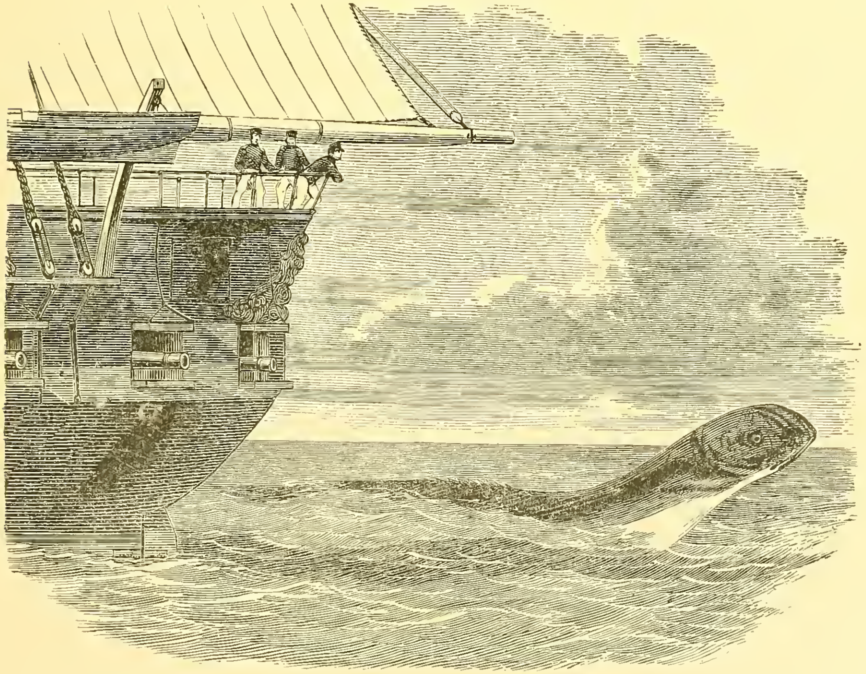
"'The diameter of the serpent was about fifteen or sixteen inches behind the head, which was, without any doubt, that of a snake; and it was never, during the twenty minutes that it continued in sight of our glasses, once below the surface of the water. Its color a dark brown, with yellowish-white about the throat. It had no fins, but something like the mane of a horse, or, rather, a bunch of sea-weed, washed about its back. It was seen by the quarter-master, the boatswain's mate, and the man at the wheel, in addition to myself and officers above mentioned.'

"He gives a sketch of the serpent to show his general appearance, which certainly is very snaky.

"In 1860," the Doctor continued, "a sea-serpent was washed ashore

on the Bermuda Islands, which answered exactly the description of Captain M'Quhae's snake, except in size. It was sixteen feet seven inches long, and its construction was such as to show very clearly that its home was in the water. A snake three feet long, lacking a single inch, was killed on the coast of Massachusetts and sent to some of the scientific men of Boston. They pronounced it a true sea-serpent, and found that its body could be bent vertically with the greatest ease, but it was difficult to bend it horizontally. The same was the case with the Bermuda serpent; and in all the descriptions of the sea-serpent off the coast of New England or of Norway, it has been observed that the folds came above the water, one beyond another. One observer said it was like a string of kegs or floats; and those who are sceptical as to the existence of the snake have attributed this appearance to a school of porpoises pursuing each other. But it should be remembered that most of the observers are men perfectly familiar with porpoises and other marine productions, and not very likely to be deceived."

"Haven't I read somewhere," said Fred, "that there was a skeleton of a large sea-serpent in a museum in Germany?"



CAPTAIN M'QUHAE'S SEA-SERPENT.

"Quite possibly you have," Doctor Bronson answered, with a smile, "and thereby hangs a bit of history. An enterprising American was trading on the coast of Siberia, where formerly great numbers of whales were killed. Their bones were thickly scattered along the beach, and he conceived the idea of turning them to account.

"He hired the natives, and set some of his own men at work to collect the bones of three good-sized whales. Out of the ribs and vertebræ of the three he constructed a magnificent snake a hundred and ten feet long, and with a capacity sufficient for swallowing a four-horse coach, with team, passengers, driver, and all. He was careful to reject the head, pretending it had not been found; if he had shown the head, the deception would have been revealed too soon for his purpose, as some one would have been sure to recognize it as the head of a whale.

"He shipped his prize to Hamburg, and it was put on exhibition there, and then offered for sale. It was bought by a wealthy museum, and the scientific men came from far and near to see it. The speculator disappeared; not long after he had gone the secret came out, and the wonderful serpent was found to be the skeletons of three whales neatly put together.

"One thing I had almost forgotten to mention: the snakes in the Indian seas were useful in showing ships their position before the mariner's compass was invented. Pliny says the Roman navigators 'directed their course by the flight of birds, which they took with them and let go from time to time; also various signs in the sea, such as the color of the water, and sea-snakes floating on the surface.' A Turkish treatise, written in 1550, mentions a route from Aden to Guzerat, and then by the coast to Malabar, working by the stars, sea-snakes, and birds; and a Mohammedan writer, in 1749, says that, while sailing along the coast of Ceylon, they knew they were near the land three days before they saw it, from the snakes in the sea."

CHAPTER XVI.

ARRIVAL IN CEYLON. — CINGALESE BOATS. — PRECIOUS STONES OF THE EAST.

THE steamer sped onward to the south-west, toward the shores of Ceylon; favored by the north-east monsoon, she made good progress, and the time passed rapidly for our friends. On the morning of the third day, after they lost sight of the Andaman Islands, a sail was reported directly ahead, and the boys were thrown into a state of excitement in consequence.

Rapidly they approached the stranger, which was soon made out to be a craft of a style that had not been seen before. As it came toward them, Fred remarked that it was the narrowest boat he had ever seen to carry such a sail, and Frank wondered why it did not tip over; but as it came nearer, and swung along-side, he saw the reason why.

The boat was about thirty feet long, and hewn from a single log that had been spread at the centre, so as to hold two men of medium size, sitting side by side. On the gunwale, or top edge, there were planks a foot and a half in width, and these planks extended the whole length of the boat, and were closed at the ends by short ones that had a considerable slope forward; the latter planks served to keep out the waves, and, as they were somewhat narrower than the width of the log, they gave the craft its very pinched appearance. They were fastened to the boat by means of coarse twine, or "coir" twisted from the fibres of the cocoanut-tree. The joints were daubed with pitch and oil to render them water-proof, but they were only partially so, and when the boat leaned far over to leeward, it was likely that a good deal of water would be shipped.

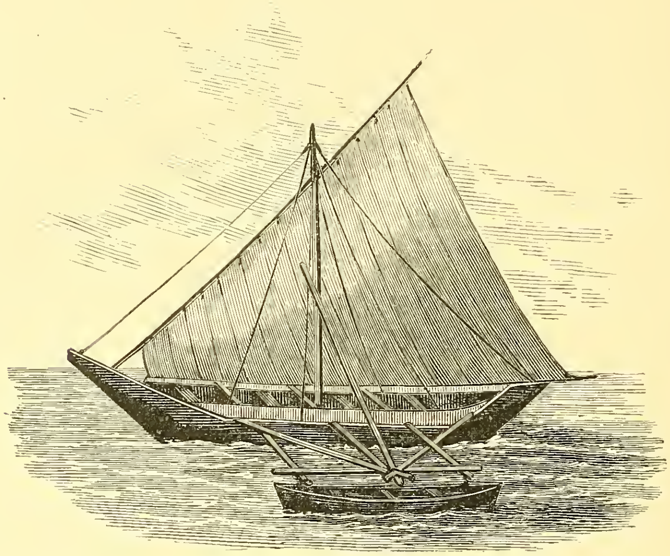
"You are quite right," said the Doctor, in response to the observation just recorded, which was made by Frank, "but she doesn't go far over to leeward, even in the strongest winds."

"How can that be," queried Frank, "when she's so narrow?"

"The outrigger keeps her down," was the reply; "you have been

so absorbed with looking at the boat that you haven't seen the outrigger."

The youth now perceived a log of wood nearly as long as the boat, and sharpened at the ends, lying parallel to, and about twenty feet away



OUTRIGGER BOAT FROM LADRONE ISLANDS.

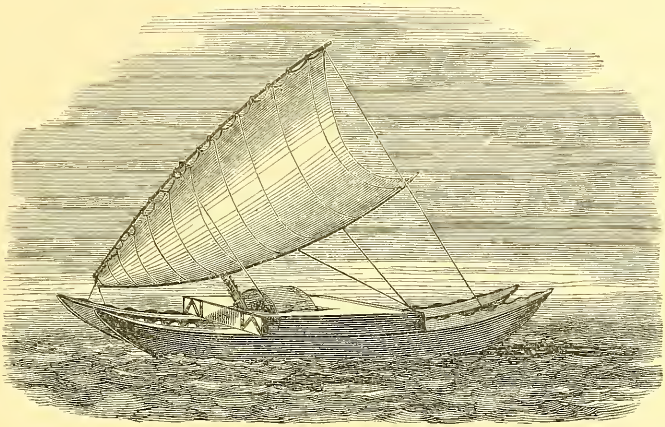
from it. It was held in place by means of a couple of bamboo poles, that were curved above the water so as to offer no resistance by dragging. Frank had observed the poles, but had not noticed the log, as it was almost completely submerged, and, besides, it was so near the color of the water that it could not be readily distinguished from it.

"You see the use of the outrigger," said the Doctor; "when sailing, they always keep it on the windward side, and before it could tip over the boat must lift the log clean from the water, and high in air, which it is hardly able to do. Perhaps it might in a cyclone, or in a very strong gale, but at such times the boats seek the shelter of the land or lie to and face the storm as best they can."

"I remember now," said Fred, "that we saw some boats with outriggers while we were at the Philippine Islands, and there were some at Rangoon and Singapore, but I don't think any of them were as graceful as this."

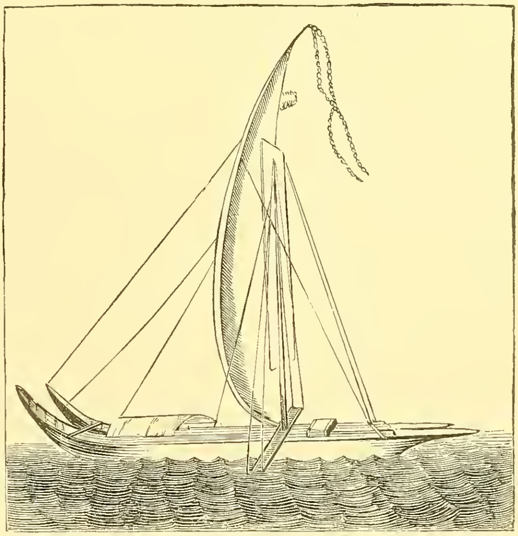
"That is so," was the reply. "The Cingalese, as the people of Cey-

lon are called, are famous for the lightness and swiftness of their boats, and their speed is something marvellous. They have been known to sail



DOUBLE CANOE, FRIENDLY ISLANDS.

fifteen or twenty miles an hour, and when at their best speed they hardly seem to touch the waves, which they skim with the velocity of a bird; they go far out to sea, and have been known to make voyages of hundreds of miles. Their carrying capacity is not great, but the wants of these people are so few that they can get along with a much smaller stock of provisions than the majority of sailors."

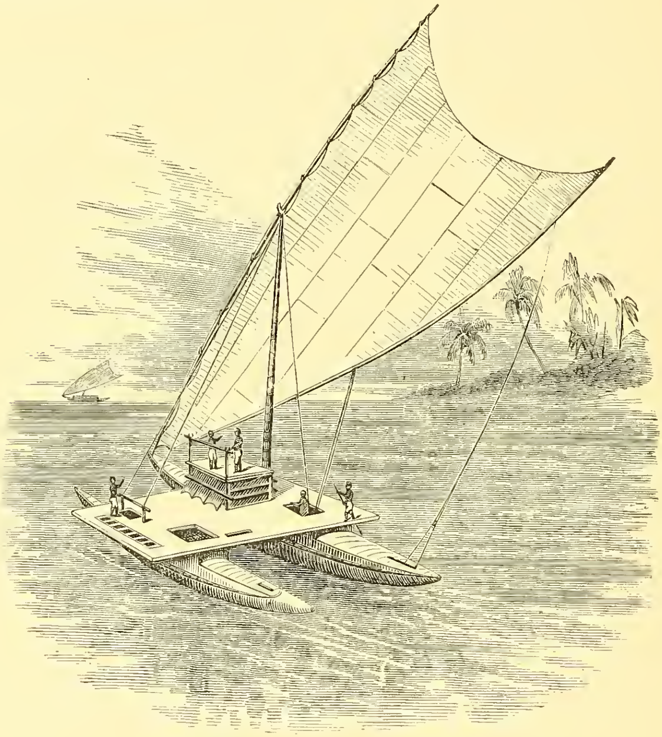


DOUBLE CANOE, SOCIETY ISLANDS.

"Why don't they put two boats together, and make a double one?" inquired one of the boys.

"As to that," answered Doctor Bronson, "I can only say, because they don't. Double canoes are in use in some of the South Pacific Islands, and have been found very successful; they sail finely, and have a great carrying capacity, and when used in

sheltered bays, or in parts of the ocean where the waves are not likely to rack them too much, a deck or platform is built to cover both boats. This is the case in the Society and Friendly Islands, where the double canoe has long been used, and is famous for its high speed; in the Ladrone Islands the outrigger is more popular, and is made on the same principle as that of Ceylon; but the boat is neither so sharp nor so long in proportion to its length.



FEEJEE ISLAND CANOE.

"These outrigger boats sail in either direction; the sail is attached to two poles, which are raised and lowered with it; the mast is in the centre, and the ends of the craft are exactly alike. The change of direction is made by raising one pole and lowering the other; when this is done the boat immediately reverses her movements, and the outrigger is always kept to windward. The same is the case with the double canoes of the Friendly Islands, which sail either way, but the canoes of the Society Islands are pointed at the bow and flat at the stern, and consequently can only go in one direction.

"The people of the Feejee Islands make their boats on a combination of the two systems. They have the outrigger principle in place of that of the double canoe, but they make the outrigger hollow, and use it for stowing cargo; and in large canoes it is the home of a part of the crew. Then they have the platform, as in the case of the double canoe, and sometimes they have a sort of upper deck, or pilot-house, on the platform, where the captain stands to direct the movements of the craft. All these forms of boats are steered by means of paddles, and not with a rudder."

"I wonder somebody in the civilized world does not take something from these savages in the way of boat-building," said Frank, as soon as the Doctor paused. "Seems to me there is a good deal in these ideas of the double canoe, and the way they manage them."

"A great many persons have wondered as you do," the Doctor answered; "and some have ceased wondering, and tried the principles on both small and large craft. A few years ago one of the races of the New York Yacht Club was won by a boat on the double-canoe principle, and since then several of these boats have been built with different degrees of success. In England a steamer called the *Castalia* was built for crossing the channel between Dover and Calais, but she proved to be very slow in spite of her enormous engines, which were intended to propel her not less than twenty miles an hour. The chief defect in her construction was that she was built like two complete boats placed side by side, whereas she should have been shaped like a single boat that had been sawed in two from one end to the other. The water is ploughed off from the bows of a boat, as you can see at any time, and when two boats are close to each other and parallel, the water is banked up between them and retards their progress; but where a double boat is built as I have suggested, and as the South Sea Islanders build them, the case is different, and the two hulls glide as smoothly as though they were only one.

"An American, who has given much study to the subject, has devised a form of boat for pleasure purposes along the coast, that he claims to be a vast improvement over the boats we now have in use. He suggests a double hull sixteen feet long, and each half of the hull eighteen inches wide at the top, and the same in depth. He puts these hulls five feet apart, connects them by beams, and lays down a light deck thirteen feet long and eight feet wide at its broadest part. He places a rudder on each hull, and attaches the two to a single tiller, and he rigs the boat with a lateen sail, though he frankly confesses that the ordinary boom-and-gaff sail is better for all purposes except that of picturesqueness. As

the Americans are a practical people, they are not very likely to adopt the sail of the Mediterranean and the South Seas because it looks well."

While this conversation concerning boats was going on the strange craft swung into the path of the steamer, and a rope was thrown from

AMERICAN MODIFICATION OF A SAVAGE BOAT.

the latter to the former. It was caught by one of her men, and without the speed of the steamer slacking in the least, the Cingalese boat came along-side and was made fast. A native clambered up the rope with the speed of a monkey, and Frank observed that he grasped it between the first and second toes of his feet, exactly as the Malays do. Like the Malays they go barefooted all their lives, and consequently the toes retain far more freedom of action than they would if confined in boots or shoes.

The occupants of the boat were fishermen, and they had a stock of freshly-caught fish, from which the captain of the steamer made a liberal purchase for the use of his passengers and crew. Then they had some of the fruits of Ceylon, principally cocoa-nuts, both green and ripe; the former were in the greatest demand, as they afforded an agreeable relief

from the warm water that had been the beverage of the party since their departure from Rangoon. The juice of the green cocoa-nut is one of the most delicious drinks imaginable; it is slightly acidulous, and an excellent tonic for the stomach. The natives drink it without the least restriction, and it is very rarely that a foreigner finds any ill effects resulting from its use.

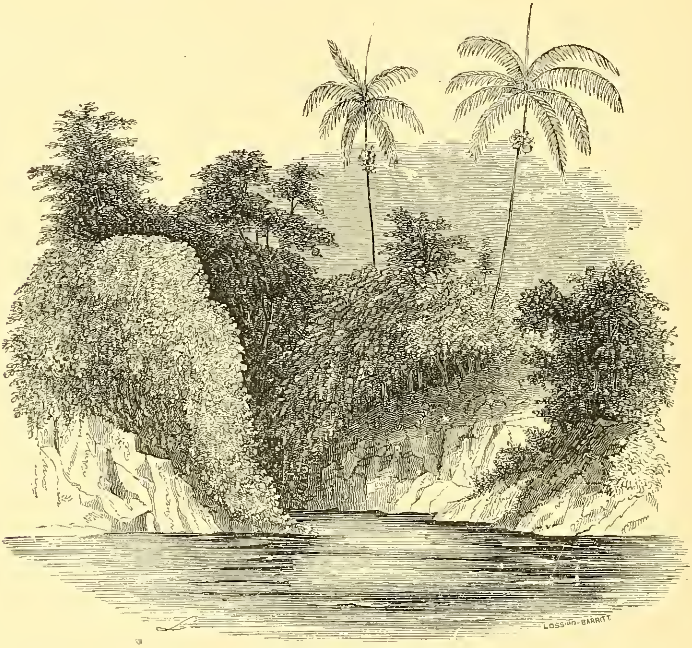
The Parawas, or fishermen of Ceylon, are a distinct class or caste by themselves, and it is a curious circumstance that they are all Catholic Christians. They are of the same race as the fishermen of Southern India, and were among the first converts of the Portuguese missionaries more than three hundred years ago. The fishermen of Northern Ceylon invited St. Francis Xavier to go and teach them in the doctrines of Christianity in 1544; they were converted through his labors, and their descendants have remained faithful to the creed that was then promulgated. Partly in consequence of the difference of religious belief they have comparatively few relations with the other inhabitants of Ceylon, and stick persistently to their occupations. They are divided into thirteen sections, and each has its own work connected with the fishing business. Some of them are boat-builders, others are carpenters, others weave the nets, and others make the spears and various metal implements that are used. Those who go out to catch the fish are divided into various classes, such as rock-fishers, beach-fishers, net-fishers, spear-fishers, boat-fishers, rod-fishers, etc. They are a brave and hardy people, and though few of them get rich, they usually lead comfortable lives, as the seas around Ceylon abound in fish, and the man who pursues them patiently is pretty sure to be rewarded.

The boat delivered the purchases made by the steamer, and then dropped off, and was soon left far behind. The next morning, when the boys went on deck, the coast of Ceylon was in sight, eight or ten miles away. Near the shore it was a mass of green, with here and there a little nook opening into what might possibly be a harbor, and for the greater part of the way the verdure came closely down to the water. As they drew nearer and nearer, the boys made out the verdure to be a limitless extent of cocoa-nut trees, and they were not at all surprised when told that there were many millions of them on the island of Ceylon.

"You observe," said the Doctor, "that all along the shore the trees hang over the water, and apparently their roots are pushed out into the sea. The tree is fond of the salt-water, and grows better at the edge of the sea than away from it. It is a wonderful provision of nature that

the tree bends over the sea, as the fruit when ripe falls into the water, and is carried away to other lands. It may furnish food for men and animals, or it may be cast on a sandy shore, where it develops and takes root, and grows into another tree, that follows the example of its parent."

At this moment the captain of the steamer approached them, and pointed out a chain of mountains that could just be designated on the



SCENE ON THE COAST OF CEYLON.

horizon. "The sharp one is the Peak of Adam," he explained; "you'll probably know more about it by-and-by."

"Why is it called the Peak of Adam?" was the inquiry that naturally followed this announcement.

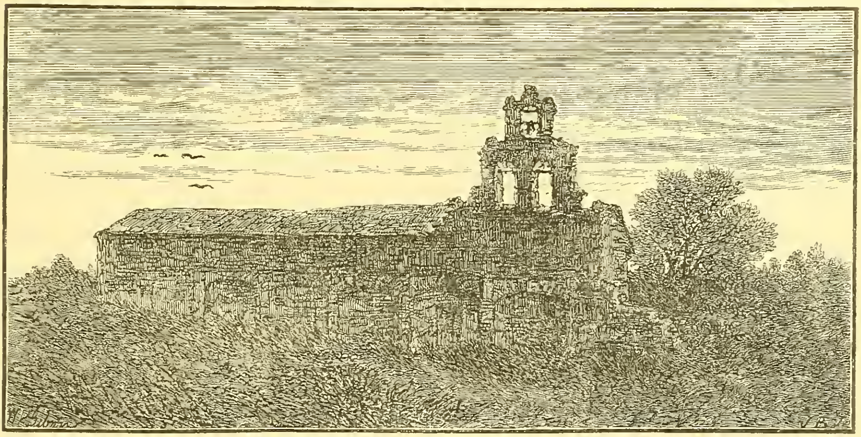
"Because," was the reply, "it is supposed to bear the mark of Adam's foot when he stepped from the island to the Kingdom of Siam. This is the Mohammedan tradition, but the natives claim that the footprint was made by Buddha, and for this reason they hold it in high veneration, and have a temple on the summit. For sailors it is a landmark, as it is the highest mountain in the island, with a single exception."

"Perhaps we may have an opportunity to ascend it," said the Doc-

tor; "and if we do, we shall see many things about it and from its summit to remind us of our ascent of Fusiyama, in Japan."

The steamer rounded the southern extremity of the great island, and headed for the port of Point de Galle. The scenery of the coast was not materially changed as the miles were left behind, and our friends began to weary a little on account of its monotony. It seemed as though the cocoa-nut-trees were unending, and one of the boys declared that he had seen enough of them to last him for some time. By-and-by a flag-staff was visible on a little promontory, and the captain announced that they were close to their destination. Several boats were cruising about in front of the entrance to the harbor, and, as the steamer came into sight, two or three of these boats headed for her. They were outriggers, of the same pattern as we have already encountered, and from one of them a pilot was taken to guide the steamer to her anchorage.

A ship arriving in front of Galle at night must anchor outside, or cruise up and down till daylight, as the pilots never come off during the hours of darkness, no matter what signals are made. The harbor is not an easy one to enter, and requires great care on the part of the pilot to bring a ship safely to anchor. There are several sunken rocks inside, and a stranger would be almost certain to run on them, even with the assistance of a good chart; a steamer was once lost here owing to



RUINS OF A PORTUGUESE CHURCH.

the delay of only a few seconds in the transmission of an order for the stoppage of the engines, and others have received serious damage from similar causes. Many plans have been devised for improving the harbor

by the removal of the rocks, and it is said that contracts have been made recently with some Americans for that very desirable work.

The steamer was brought to the place assigned her, and securely

A YOUNG NATIVE AT BREAKFAST.

moored, and as soon as this had been done, our friends entered one of the curious little outrigger boats and were carried to the shore. The boys were so pleased with the picturesque beauty of the place that they wished to make a sketch of it, but there was no time to do so, and the proposal was dropped. The port is a delightful nook in the coast of Ceylon, surrounded with cocoa-nut-trees that grow down to the very edge of the water, and have their roots washed by its spray. At one side is the old town or fort, which dates back to the Portuguese occupation of the place, and gives a hint of its age by its venerable appearance. Some of the old buildings are in ruins, as the government does not care to reconstruct them.

Point de Galle has very little local commerce, and its chief importance comes from its geographical position. Nearly all the steamers between Europe, on the one hand, and China and the Far East, on the other, touch at Galle for coal, and many thousand tons of this fuel are handled

there every month. Some days there are eight or ten arrivals and departures, and rarely is there a day without a steamer entering or leaving. A glance at the position of the place, with reference to other ports of the Indian Ocean and the Eastern seas in general, will show its great importance as a coaling-station. Its name is supposed to be derived from the great number of coral rocks—Galla—on this part of the coast, and particularly in the vicinity of the harbor.

Doctor Bronson and the youths had hardly set foot on land before they were pestered with natives offering precious stones for sale. Ceylon is famous for its real gems, and as there is rarely a good thing in this world without a counterfeit, there are plenty of imitation gems in the hands of the peddlers. In fact, it may be set down that nearly all that are offered are false, for the reason that the profit on their sale is greater than can possibly happen with real stones. The stones for which Ceylon is famous are the sapphire, ruby, topaz, and garnet, but they are not sufficiently abundant to yield fortunes to those who dig for them. Some of the rivers flowing from Adam's Peak are literally paved with garnets, but they are nearly all so small as to be worthless. The only use for these garnet-sands is for sawing elephants' teeth into plates, and for polishing other gems.

The annual exportation of precious stones from Ceylon is about \$50,000; this does not include the stones, nearly all false, that are sold to passengers on the steamers touching at Galle. When there is a goodly number of verdant travellers on a steamer, the harvest is likely to be a rich one. The European naturally thinks there is a relation between the asking and the selling price of an article, and when a native demands a hundred dollars for a gem, the stranger is very apt to offer five or ten dollars for the stone, and even then he thinks he has acted meanly. He is astonished to find his offer accepted, and still more astonished to find that his purchase is not worth twenty-five cents.

A couple of natives followed our friends in their walk on shore, and persisted in offering a select assortment of rubies, sapphires, and other stones. One of them urged Frank to buy a fine ruby for ten pounds, and a sapphire for fifteen, with the guarantee of his word of honor that they were genuine. Frank thought of his sister and Miss Effie, and how much these gems would please them, and finally asked the dealer his lowest price.

The man meditated a moment, as if balancing in his mind the figure that came as nearly as possible to the actual cost, and then said he would sell the two for twenty pounds, or one hundred dollars.

Frank referred the matter to Doctor Bronson, and asked how much it would be wise to offer. The latter looked at the stones for a moment, and suggested that a rupee (fifty cents) would be about the thing.

Frank was rather taken aback at this difference in figures, but gravely followed his mentor's advice. He tendered the rupee, which was refused with indignation; but when he held the stones in one hand and the rupee in the other, for the man to take his choice and be gone, the rupee was accepted, and Frank was the happy owner of a sapphire and a ruby of excellent color and "finest water," that had their origin among the makers of false gems in Paris or London. The native makers are, however, quite as skilful as the Europeans, and it is said that some of the best fictions in the way of precious stones are produced in India.

VIEW OF THE COAST NEAR GALLE HARBOR.

CHAPTER XVII.

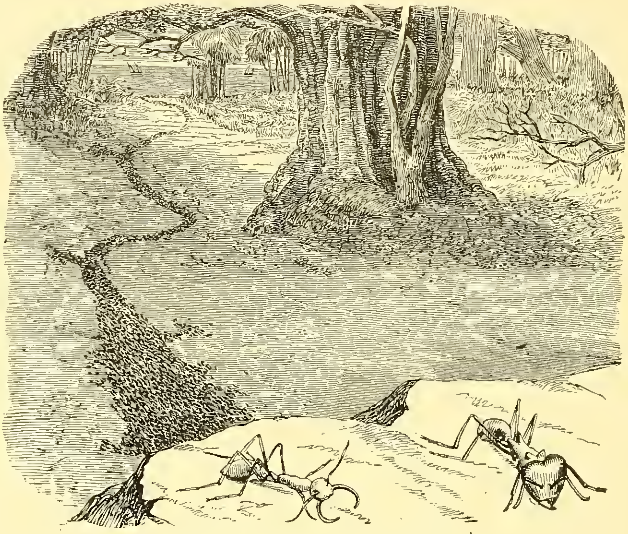
SIGHTS IN POINT DE GALLE.—OVERLAND TO COLOMBO.

OUR friends went to the Oriental Hotel, the principal hostelry in the city, and thence to the banker's, where it was thought there might possibly be letters waiting for them. Frank remarked that the streets were very quiet for a place of as much importance as Galle, but Fred reminded him that its chief business was to serve as a coaling-station for steamers, and it was not to be expected that the steamers would come up into the streets to get their coal. Frank acknowledged the force of his cousin's argument, and the subject of conversation was changed.

A STREET IN POINT DE GALLE.

The houses were rarely more than two stories high, and they had shaded balconies where the occupants could be partially protected from the heat during the middle of the day. Point de Galle is cooler than some places farther north, for the reason that the wind blows with great

force for a large part of the year, and sometimes it is so fierce that it rolls the surf into the harbor, and causes small craft to dance uneasily at their anchorage. The houses are solidly built of stone or stuccoed brick, and many of the floors are of the same material, on account of the greater



AN ARMY OF ANTS ON THE MOVE.

coolness. Another reason for the use of stone or brick instead of wood is the presence of a white ant that devours the latter substance with great rapidity; teak and one or two other kinds of wood resist him, but all others are his legitimate food. Speaking on this subject, the Doctor told the boys that some years ago a quantity of machinery was sent from America to Ceylon, and the shippers hoped to make a fine profit on their venture. The machinery was partly of wood and partly of iron, and the wood happened to be of a kind that these ants are fond of. In less than three months they had devoured it; the machinery fell to pieces, and was utterly useless, and the whole value of the shipment was lost. "American exporters," said he, "would do well to learn the peculiarities of the countries where their goods are going before they venture on making consignments."

Ceylon contains a varied assortment of ants, and some of them are great nuisances: they swarm over everything, and seem to consider that the house and all it contains belong to them. There is one variety that is a terror to every living thing; it is about an inch long, and has a pair

of powerful jaws with which it inflicts a severe wound. It is formidable in consequence of always moving in great numbers, and when it is once started there is hardly anything that will stop it.

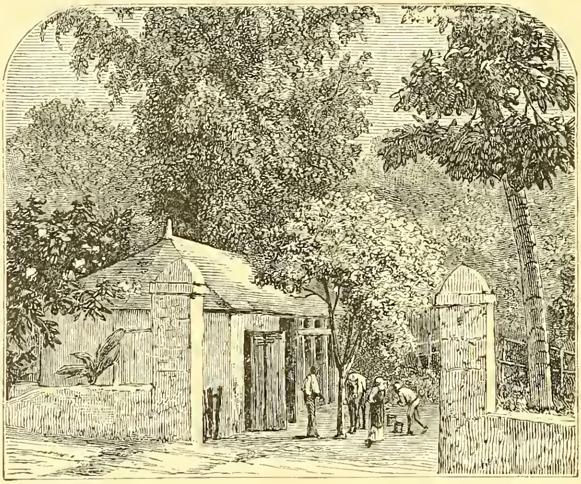
An army of these ants will march through a forest, and make a road a yard or more in width that resembles a well-trodden path. When hungry they spread out over the fields and devour every green thing, and they can kill cattle, horses, and even large snakes that happen in their way. It is said that their favorite way of killing a snake is by first biting his eyes out, and when they have reduced him to a condition of blindness his capture is comparatively easy. They eat every particle of flesh and leave the bones, and if a skeleton that they have operated on can be found before the bones are scattered by the wild beasts, it is in exactly the condition required for a museum. They show great ingenuity in crossing rivers, and their performances have a strong resemblance to reason. When they come to a stream they search for an overhanging tree, and as soon as they have discovered it a lot of ants proceed to the end of the branch that reaches the farthest over the water. Here they form a chain by linking their bodies together, and the one at the end of the chain grasps a branch on the opposite side, and thus completes a suspension-bridge, by which the rest of the army can cross. When all are over the bridge dissolves and brings up the rear. If the overhanging branch does not reach to the other side, they swing the living chain till the ant at the lower end can seize hold of something, and sometimes they give it additional strength by throwing out guy-ropes or braces of strings of ants.

It was proposed to take a ride to Wockwalla, a famous place near Point de Galle. There were several carriages in front of the hotel, and one of them was engaged for the ride, with the understanding that the return would be made through the cinnamon gardens. The ride was through a rich tropical forest, and the boys both agreed that they had seen no forest more luxuriant than this since they left Java. The trees for much of the way overhung the road, and sheltered the travellers from the sun; and at almost every step they caught sight of birds playing among the branches. Small boys ran after them with bunches of jasmine and other flowers for sale, and one of the youths bought a bunch of mace which was just blooming, and showing the brown nutmeg inside. They regretted that they could not carry it home just as it was, and show their friends the great beauty of the nutmeg-tree when it puts forth its flowers.

Wockwalla proved to be a hill from which there was a fine view of rice-fields and tropical forests, and a pretty river winding through them.

With an eye to business some one had built a refreshment-stand on the top of the hill, and a notice was posted that all who did not patronize the establishment would be expected to pay for the privilege of sitting on the balcony. As the day was warm, it was promptly decided that lemonades would be in order, and they were speedily prepared. Mangoes and two or three other kinds of fruit were brought, and an hour was passed very pleasantly in the contemplation of the attractions of Wockwalla, which were not altogether confined to the scenery.

The return to Galle was by a different route, which led them by the cinnamon gardens, where a fee was charged for looking at the trees. Some of the natives stripped off a portion of the bark of one of the



ENTRANCE TO THE CINNAMON GARDENS.

trees, and allowed the boys to taste and smell it to make sure that it was cinnamon and nothing else. It was not the season of gathering the bark, and consequently they were unable to witness the process of obtaining the spice, which forms an important export to Europe and America.

While they were wandering about the gardens, and looking at the trees, the Doctor told the boys about the plant they were studying.

"You see," said he, "that the trees are from fifteen to thirty feet high, and when you stand half a dozen yards away the strong perfume that rises from them is plainly perceptible. The scientific men call it the *Laurus cinnamomum*, and it was known to the ancients long before the beginning of the Christian era; it is a native of Ceylon, and it is said

that there are not far from 15,000 acres of ground in the island devoted to its culture. The trees are grown from seed, and when they are eight years old they begin to yield the cinnamon of commerce, and they continue to yield it till they have passed a hundred years. An acre of ground well planted with good trees will give not less than 400 pounds of cinnamon in a year, and sometimes as much as 500 pounds.

"The bark is stripped off in pieces about forty inches long, and is then fermented till the outer skin separates from the inner, which is the one that is wanted. Then the inner skin is dried in the sun very slowly, and it is this drying that makes it curl up in the way you see it in the stores at home. It does not require a rich soil for its production, and many of the cinnamon gardens of Ceylon are on sandy land that would not easily produce anything else."

Frank asked if all the cinnamon used in the world came from the island of Ceylon.

"Not by any means," was the reply; "but there was a time when Ceylon had a monopoly of the commerce. When the Dutch held the island they carried the trees to Java and started the culture there; and the Chinese have a tree that belongs to the same family as this one, though its product is not as good. The Chinese variety is called cassia, and is extensively used for medicinal purposes. About half the cinnamon used in Europe and America comes from Ceylon, and the rest from Java, China, and South America."

It was near sunset when our friends returned to Galle, and were dropped at the door of the hotel. Before starting on the ride to Wockwalla the Doctor had sent the commissionnaire of the hotel to bring their baggage from the steamer, and on their return they found it waiting for them in the corridor. The heavy trunks were sent off early in the evening by a wagon bound for Colombo, and the three passengers were to leave about ten o'clock at night by the coach.

The distance between Galle and Colombo is nearly seventy miles, and a coach runs each way daily; the fare is £2 5s., or about $11 00, and an extra coach of four seats may be had for £11. The steamers of the P. and O. Company do not touch at Colombo, and passengers bound for that place are ticketed through at the same rates as to Galle alone. After the arrival of a steamer of this company at Galle the coaches are apt to be greatly crowded for a day or two, and, as one was due the next day, the Doctor thought it best to get off at once; besides, they had exhausted the sights of Galle, and there was no use in waiting longer.

The coach came to the hotel at the appointed hour, and the three

passengers took their places. They found that they had the vehicle pretty much to themselves, as there was only one other passenger, an English coffee-planter who lived up country, and had been to Galle on business. The vehicle was a rickety affair, and the horses were not half as good as those that had drawn the boys in their journey through Java; Frank remarked the low condition of the team, and the Englishman told him that horses were dear in Ceylon, as they were not raised in the country, but were imported from Burmah, Australia, the Malay Archipelago, and the Persian Gulf. "Those of us who want horses," said he, "are constantly on the lookout for new lots of whalers, as we depend on them to recruit our stocks."

Fred modestly asked what the whalers had to do with bringing horses to Ceylon.

"I see," said the Englishman, laughing, "you don't understand our expressions. A 'whaler' is a horse that has been imported from Australia; when you get to Colombo you will see placards on the walls, or advertisements in the papers, that choice lots of whalers have just been received, and will be sold at auction on a certain day if not previously disposed of at private sale."

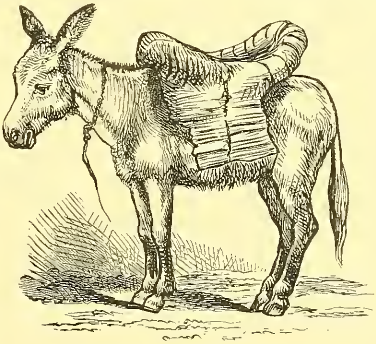
"I suppose," Frank remarked, "that it is in the same way that foreigners living in China call an imported horse a 'griffin;' do you call these horses griffins as well as whalers?"

"Not often," answered the Englishman; "but sometimes you hear the name from an Englishman who has been in China. In India and Ceylon the term griffin is applied to a newly-arrived Englishman, and it sticks to him till he has been a year in the country. Griffin is frequently abbreviated to 'griff,' and those who are familiar with the talk of Englishmen in India know perfectly well what is meant when a man is called a griff."

"Returning to horses," he continued, "the best are from Australia, and they sell for nearly double the prices that the others will bring. Then we have them from the Persian Gulf, of a poor quality so far as appearance is concerned, but they do very good service. The team that we now have is composed of Gulf horses, and what they lack in speed they make up in savage tempers. They are difficult to manage, and, as one of your countrymen once remarked in my hearing, 'they are very handy with their heels!' A better horse than this is the Pegu pony, as it is called; it comes mostly from the western end of Sumatra, and stands the climate very well, besides being less vicious than the rest, but it cannot equal the Australian for speed."

"We use donkeys here for carrying burdens, just as they are used in nearly every part of the world. They are rather too weak for riding purposes, and you will not often see them with riding-saddles on their backs; the pack-saddle is almost as large as the animal that carries it, but it is lighter than you would suppose, as it is made from pandanus-leaves and coir-rope, and serves its purpose very well."

The greater part of this conversation occurred after the coach had started on its journey and before it reached the first station for changing horses. The road was excellent, and the team made such progress as to surprise the boys, who had thought such sorry animals could go little faster than a walk. The horses kept an even pace of about seven miles an hour, and hardly broke from a trot for miles where the road was level. The road was lined on each side by cocoa-nut-trees, and their new acquaintance told the boys that the trees continued without interruption all the way from Galle to Colombo.

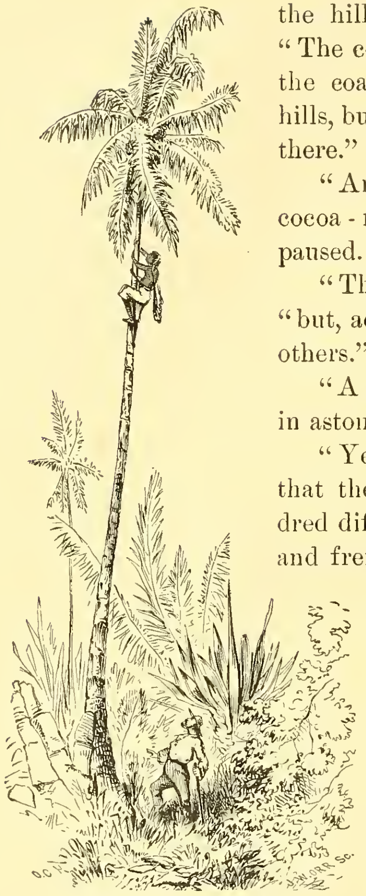


DONKEY AND PACK-SADDLE.

The change of horses was made by the light of torches, and the kicking and general restlessness of the animals confirmed what the Englishman had said about their bad tempers. The drivers and stablemen seemed to have a wholesome respect for the brutes as long as they were in danger from their heels — but when the team was all ready, and the driver had mounted to his box, he made up for any previous forbearance by a liberal use of the whip.

After passing the first station the travellers settled down to sleep, and, as there were four of them, each had a corner to himself. The boys slept quite well during the night, waking only from an occasional jolt or when stopping at the stations for the change of horses. The night air was damp from the fog that poured in from the sea, and, by advice of their new acquaintance, they wrapped themselves well around the throat to avoid taking cold.

In the morning they were still among the cocoa-trees, and, as they looked out on the forest of tall trunks extending as far as they could see in any direction, the conversation naturally turned upon the uses of this product of the earth. The coffee-planter told them that there were fifteen varieties of the palm-tree in Ceylon, the most of them growing in



GATHERING COCOA-NUTS.

the hilly regions of the interior of the island. "The cocoa-nut palm," said he, "grows only along the coast; you find it occasionally among the hills, but not often, and it never seems to flourish there."

"And I suppose its chief use is to produce cocoa-nuts?" Fred remarked, as the stranger paused.

"That is its principal use," was the reply; "but, according to the natives, it has ninety-nine others."

"A hundred uses for one tree!" replied Fred, in astonishment.

"Yes," said the stranger, "the natives claim that they can rely on the cocoa-palm for a hundred different things. It is sufficient to build, rig, and freight the small vessels of the Maldive Islands. It produces wine, water, oil, sugar, spirits, vinegar, and milk; a species of sago is obtained from the pith of the trunk near the head, and a vegetable like cabbage from the young buds when boiled; the old leaves make huts, fences, baskets, and the like, and the young leaves are yellow and transparent, so that they make pretty lanterns and decorations; the shells of the nuts are made into cups, ladles, spoons, and similar utensils, and, when not wanted for any other purposes, they can be converted into charcoal for cooking food. From the fibres of the leaves brooms can be made, the butts of the stalks make paddles and handles to farming implements, while the fibres of the husks may be converted into ropes, twine, matting, carpets, and mattresses.

"You may think that is all, but it isn't. The tree has many medicinal properties: the natives extract a powerful oil from the bark, which they use in cutaneous diseases; the juice of the flower makes an astringent lotion like alum; a decoction of the root is given in fevers; and the juice of the leaves mixed with some of the oil is used for ophthalmia. Cocoa-nut-oil is the best remedy for the stings of insects, and it is already well known to European and American chemists. The bamboo is said to be

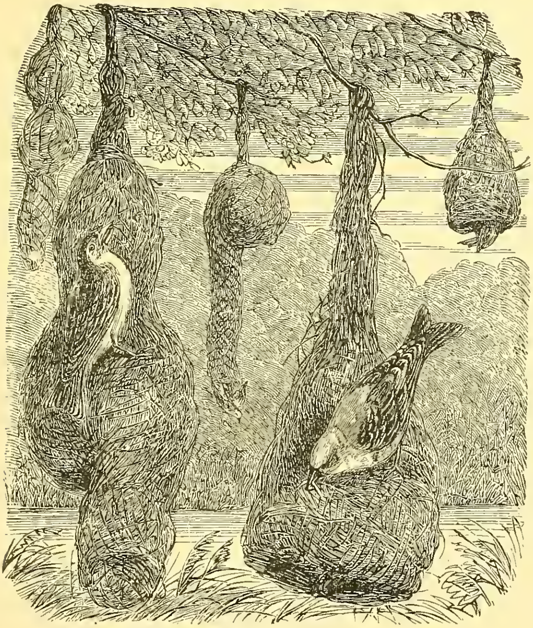
one of the most useful trees in the world, but I doubt if it holds a higher place than the cocoa-nut-tree."

Frank wished to know how long the trees lived, and how soon they began to bear fruit.

"They begin to bear about the seventh year," replied the coffee-planter, "and are in full bearing at twelve years. As long as they live they produce from forty to fifty nuts a year on the average, and they keep it up for seventy or eighty years. They produce their fruit at different times in the year, so that

A YOUNG COCOA-PALM.

you may see it in all stages of growth, from the blossom up to the nut that is ripe and ready to fall. Look at any of the trees as we ride past them, and see for yourselves."



NESTS OF THE TODDY-BIRD.

The boys looked out of the windows of the coach, and verified the statements of their informer. While he was doing so, Frank made a mental calculation something like the following:

"There are said to be 20,000,000 cocoa-nut-trees in Ceylon. Now, if each tree makes forty nuts a year, they have 800,000,000 nuts, and I wonder what they do with them?"

He propounded the problem to the stranger; the latter smiled, and replied,

"Ceylon exports 2,000,000 gallons of cocoa-nut oil, and consumes as much more; it takes forty nuts for a gallon of oil, and thus we dispose of the product of 4,000,000 trees.

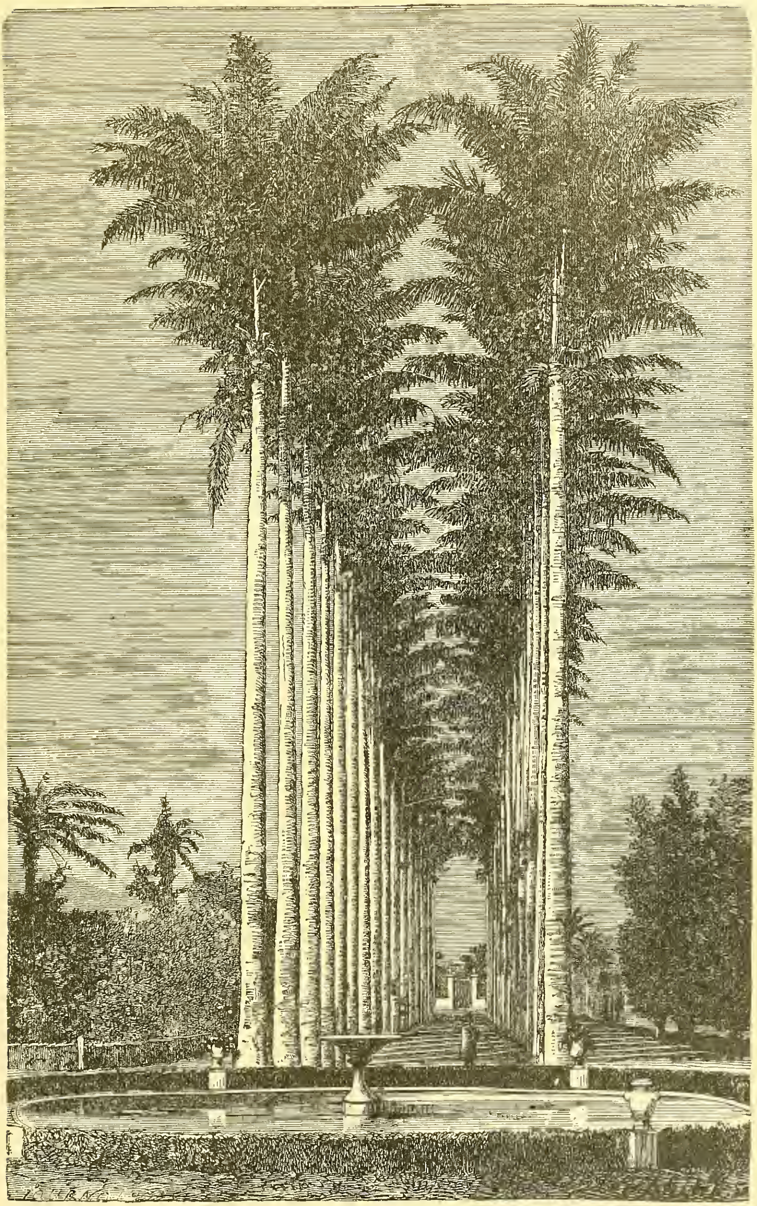
"Then there are 5,000,000 trees that produce toddy, which is the juice obtained by tapping the base of the buds just before they blossom. It is drunk sweet or fermented, but in the latter condition it has intoxicating qualities that are not at all beneficial. It contains a good deal of saccharine matter, and is boiled down sometimes into coarse sugar, and sometimes into a sort of cheap molasses. Toddy makes excellent vinegar, is used for leavening bread, and is distilled into the spirits called arrack. The word 'toddy' has gone into other languages, and is known in both England and America.

"During the season of gathering the juice of the palm the gatherers are greatly disturbed by a small bird that drinks the juice, and calls all its friends to share it with him; it is known as the 'toddy-bird,' and his nest is shaped somewhat like that of the Baltimore oriole. The bird is a social one, and sometimes hundreds of nests will be found together on a single tree.

"We have disposed of the product of 9,000,000 trees, and have 11,000,000 remaining. Many millions of nuts are annually used as food by the natives, either in a green or ripe state, and great numbers are destroyed by the monkeys and other animals that infest the trees. For making the best qualities of coir-rope the nuts must be gathered when green, as the fibres become brittle when old, and the rope is of a poor sort. Then there are many millions of nuts exported to other countries, and on the whole very little of the product of the forest is allowed to go to waste."

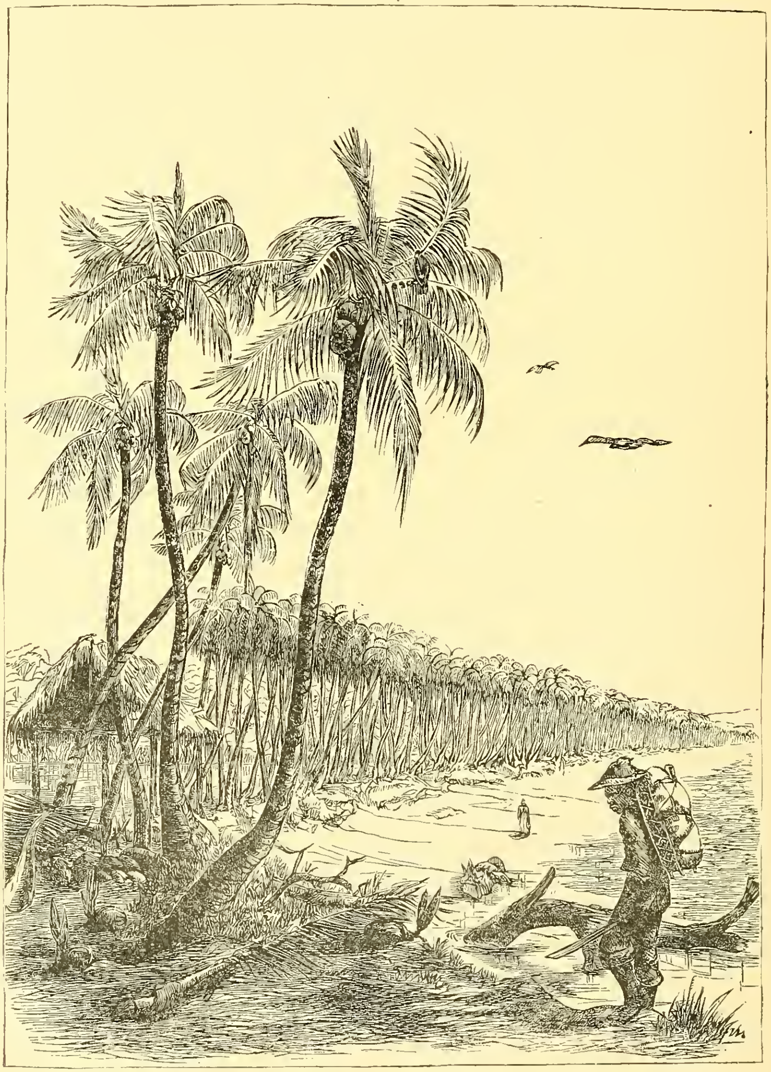
As they approached Colombo there were occasional glimpses of houses among the trees, and the boys were not surprised to learn that the cocoa forest was considered a desirable place of residence for the foreigners in Colombo who could afford homes out of the city. Avenues of palms led from the road to the dwellings, and in several instances there were evidences of liberal expenditure and excellent taste in the arrangement of the houses and their surroundings. Seven or eight miles from Colombo the planter called the attention of the boys to an island that was just visible through the trees, and was separated from the land by a very narrow channel. He explained that it was a favorite resort of the foreigners in Colombo when they wished to indulge in sea-bathing, and that a railway had lately been completed to it.

It was about eight o'clock in the morning when the coach rolled from the edge of the forest and out upon an open space which is used as a



RESIDENCE OF A WEALTHY FOREIGNER.

drilling-place for troops, and also for the races in which the residents of the city indulge occasionally. On the sea-front of this area the surf was breaking, and the pure breeze from the waters was a grateful refresher after the ride of the night. As they rose to the crest of the ridge the boys came in sight of the red walls of the city; in less than a quarter of an hour they were at the door of the principal hotel of Colombo.



SCENE ON THE COAST NEAR COLOMBO.

CHAPTER XVIII.

SIGHTS IN COLOMBO.—RAILWAY JOURNEY TO KANDY.

COLOMBO consists of two parts, "The Fort" and "The Black Town." The Fort includes the foreign quarter: the government offices are here, and also the principal hotels and warehouses, as well as the residences of the English inhabitants. The Black Town, or Pettah, is made up of a mixed population, principally natives and half-castes, with a sprinkling of Moormen, Parsees, and other nationalities more or less uncertain. The Pettah formerly extended close up to the Fort, but when the Dutch were about to be attacked by the English, near the end of the last century, they cleared a space of several hundred yards, and it has remained clear ever since.

Our friends took a stroll through the Fort and down to the harbor, where they found a miscellaneous collection of ships from the coasts of India and Ceylon, and from other parts of the world. The harbor is accessible only to small vessels of native construction: foreign ships are obliged to lie farther out, and to land and receive their cargoes and passengers in lighters and row-boats. When the south-west monsoon is blowing the surf rolls unpleasantly from the sea, and the operation of landing or embarking is a serious one for nervous persons. A long pier or breakwater was begun in 1875, and the authorities promised to have it completed within ten years from the date of commencement. When finished, it will afford shelter for large ships, and greatly increase the importance of Colombo.

Frank asked the Doctor if the place was named for Christopher Columbus, the great navigator.

"Yes and no," was the answer. "It is called Col-amba in the native histories as far back as A.D. 496, and an Arabian traveller, in 1344, speaks of it as 'Kalambu, the finest town in Serendib.' It kept the name of Kalambu till the arrival of the Portuguese, who changed it to Colombo in honor of the famous Genoese discoverer of America. There has been a town or city here for nearly if not quite two thousand years, but it was

never of much importance till the Portuguese, and after them the Dutch and English, held the island."

In the course of their promenade the boys discovered that the walls of the Fort were nearly two miles in circuit, and of considerable strength

A BUSINESS STREET IN THE "BLACK TOWN."

and thickness. The Doctor told them the Fort was built by the Dutch, and had been only slightly altered by the English, but there was a prospect that the most of the walls would be removed in a few years to make way for new buildings. The Fort stands on a promontory between the sea and a couple of lakes, and is consequently a place of great natural strength. The houses are solidly built, the streets are lighted with gas, and altogether Colombo is far from uncomfortable as a place of residence.

Numbers of peddlers were in the streets, and the corridor of the hotel was crowded with them. They were of the same character as the itinerant merchants of Singapore and Point de Galle, and quite as persistent in offering their wares for sale. The goods were chiefly the products of India and Ceylon, and included some very pretty shellwork; carvings in ivory, ebony, and sandal-wood; Indian jewellery, and gems; the most of the latter being the false gems from Point de Galle. The boys were attracted by the models of Cingalese boats, and after a good deal of bargaining they bought one to send home. It was of the outrigger pattern, very much like those of Galle and the eastern coast, but with the outrigger larger in proportion to the size of the boat.

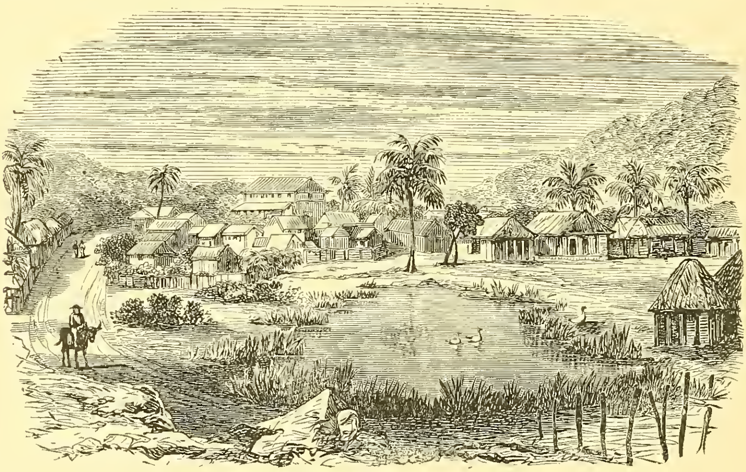
In the afternoon the Doctor ordered a carriage and went with his young companions to the Pettah, or Black Town, and into the open country beyond it. They found that the Black Town was laid out with wide streets, and had a handsome market-house, under the superintendence of an Englishman. The fine display of fruits in the market showed how Colombo is favored by its tropical climate, and the varied lot of fish told of the wealth of the sea. Frank called the attention of his cousin to several fishes whose like they had not seen before, and Fred responded by pointing out some fresh varieties of fruit.

MOORISH MERCHANTS OF CEYLON.

They passed stores and large shops that were kept by men with foreign features, but with skins quite as dark as those of the natives. The

Doctor said these men were descended from the Portuguese, who were the first Europeans to settle in Ceylon, and take possession of the country. Many of them had accumulated large fortunes, and their houses were on a scale that corresponded to the wealth of the owners. Many of these houses have fine gardens attached to them, and there are some gardens that cost many thousands of dollars. The Dutch, who held Ceylon after the Portuguese, and before the English occupation, have left a good many descendants in Colombo, and nearly all of them are rich and correspondingly happy. They spend their lives in Ceylon, and never think of going to Holland to reside.

There are a good many half-caste descendants of the Dutch and Portuguese, and where they are not transacting business on their own account,



A SUBURBAN SCENE.

they are employed as clerks, either by the Government or by private individuals. The Parsees and Moormen are all merchants, and of late years they have been forced into competition with the Chinese, who have begun to invade Ceylon.

Frank made the following entries in his note-book:

"The Cingalese are said to make good house-servants and artisans, but they will not do much heavy work. For this purpose men called Tamils are imported from Southern India, when they do not come here of their own accord, and recently as many as 100,000 have come to Ceylon in a single year. They are employed on the coffee and tea plantations, and for all sorts of heavy work in the towns; they are larger and stronger

than the native Cingalese, and are said to have bad tempers, which get them into a great many quarrels.

"It is funny to see so many varieties of color among the people of Colombo. The native Cingalese are of a pure brown, or dark olive; the Malabar negroes are like a piece of charcoal, and the descendants of the Portuguese are nearly as black as the men from Malabar. They have European features with black faces, and on the other hand the descendants of the Dutch settlers are very like the English in the color of their skins. The Cingalese are slender, and have small feet and hands; they wear their hair long, and tie it in a knot at the back of the head, with a tortoise-shell comb to keep it in place. The men have little beards, or none at all; and when I say that the dress of the women is much like that of the men, you can readily understand that it is not easy to pick out the men from the women in a crowd. A couple of yards of cotton cloth wrapped around the waist is the entire dress of a man of the lowest class. As you go up in the social scale, you find the only difference in the dress is that more and better cloth is used for the 'comboy' or skirt, with the

A GROUP OF TAMIL COOLIES.

addition of a jacket with a single row of silver buttons in front. The height at which the comb is stuck in the hair indicates the caste of the owner, and the quality of the comb itself has something to do with it.

"You don't have any trouble in distinguishing a Cingalese from a

Moorman or a Parsee, as the dress tells you at a glance. The Cingalese wear nothing on their heads except their hair and the comb, but the

CINGALESE MEN.

Moormen cut their hair just as short as possible, and wear little caps of straw that fit close to the skull. The Parsees have tall caps without rims, the Malabar natives have no caps at all, and the people of European descent wear the European dress, with hats of pith or cork. Sometimes a Cingalese wraps a gay-colored handkerchief around his head; the women cover themselves with jewellery to an extent that must be inconvenient. We saw a woman to-day who had rings on all her toes as well as her fingers; and if her chains, necklaces, bracelets, and anklets were all solid, they would have weighed many pounds. Poor people follow the example of the rich—the men by wearing wooden combs, and the women by decorating themselves with imitation jewellery made out of sea-shells,

carved wood, sharks' teeth, and the like, and they sometimes wear two or three pounds of glass beads strung into necklaces.

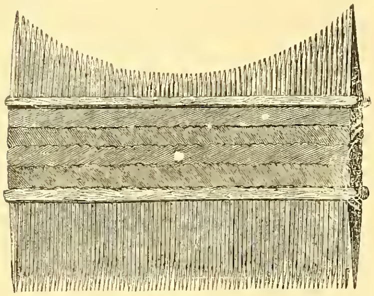
"The faces of the Cingalese women are quite pretty, but there are not many of them that would be called handsome. Doctor Bronson says they are usually married by the time they are fourteen years of age, and their husbands are only a year or two older. The marriages are generally arranged by the parents without consulting the young people: the ceremony consists in tying the thumbs or little fingers of the couple together, in the presence of several witnesses, and while they are thus tied some scented oil is poured over the head of the bride.

"We went outside the Black Town, and made quite a drive among the fields and forests around Colombo. Our driver took us to see the

CINGALESE WOMEN.

cinnamon gardens, which were much larger than those of Point de Galle, as they covered hundreds of acres, and the trees were kept in

much better condition. There are other trees mixed up in the gardens, such as cashew, bread-fruit, tamarind, and other tropical growths, and the fine roads through the place made our ride a pleasant one. The perfume from the grove was delicious, and we all recalled the words of Bishop Heber about 'the spicy breezes that blow soft o'er Ceylon's isle.'



A CHEAP COMB.

"The country back of Colombo has a good many water-courses, some of them natural and others artificial. There are several lakes, but none of any great extent, though they are nearly all pretty in consequence of the rich foliage about them. A river with a sluggish current comes down from the north, and along its banks there are a great many floating houses, where the natives live just as they would on shore.

"At one place, where we passed a little hut, we saw a coolie standing outside and pouring water upon a stone, while he repeated some words which of course we could not understand. We thought he was engaged in some form of religious worship, and when we asked the driver, he said it was so. The man was probably a native of India, as this form of saying prayers is quite common in certain parts of that country."

CASHEW-NUT.

The party went to bed early in order to have a good night's sleep, and be ready to start in the morning for the centre of the island. The express train for Kandy starts at 8 A.M., and consequently it was necessary to leave the hotel a little past seven. The boys found that the train was not unlike the one that carried them from Batavia to Buitenzorg, in Java; it was composed of carriages of three classes, the same as the Javanese trains, the third-class being occupied entirely by natives, while the second contained a mixed lot of middle-class natives and economical Europeans. The fares were six, four, and two rupees respectively for the different classes, the rupee being worth in round figures about fifty cents of our money. The distance between Colombo and Kandy is a little more than seventy-two miles.

It was Fred's turn to keep notes of the journey, and he wrote as follows:

"As the railway leaves Colombo it plunges into a tropical forest, and we were constantly surrounded by the most luxuriant vegetation we have yet seen. For the first thirty miles or more the country is flat, and every little while we dash along the borders of a tiny lake or a marsh full of aquatic plants, which are sometimes so thick that they crowd each other uncomfortably. These lakes are said to be the homes of crocodiles, and certainly they look as though a crocodile might be quite comfortable in them, and have enough to eat and drink.

A COOLIE AT PRAYERS.

"You can hardly imagine how the trees are twisted together, and wound with creeping-plants that sometimes appear to have strangled them. The underbrush is very dense, and I am not surprised to be told that you cannot walk more than half a mile an hour in an unbroken Cingalese forest, as you must cut your way at nearly every step.

"We saw a few monkeys playing among the trees, but they are not abundant along the line of the railway, and we must go farther into the interior if we wish to find monkeys in sufficient number to pay for the trouble of looking at them. Even then it will not be easy to get at them, as they can see you long before you see them; and if there is the least fear that you mean to do them harm, they dart out of sight as fast as their legs will carry them.

"At Ambepusse station we left the flat country, and began to ascend among the mountains. Up and up we went very rapidly, winding among the steep hills, and looking down from crags where the descent was almost perpendicular for hundreds of feet. If the train had gone from the track and over the edge in any one of a dozen places, it would have

been dashed to pieces in a few seconds. It reminded us of some of the points on the Central Pacific Railway in California and Nevada, and especially of 'Cape Horn,' where the train stopped a few minutes to let

THE WILD FOREST.

us enjoy the scenery. But there was this difference here, that we had the trees and plants of the tropics all around us, and the summits of the mountains were steeper and sharper than the sierras, although they were not as high.

"A good many travellers have pronounced the railway from Colombo to Kandy the most picturesque in the world; we are not prepared to agree with them fully, as there are many railways we have not seen, but we are sure it would not be easy to find one to surpass it. Doctor Bronson says the scenery reminds him of that between Philippeville and Constantine in Algeria, of the Brenner Pass in the Alps, of the Central Pacific Railway, and of the line from Batavia to Buitenzorg all rolled together; and he adds that the engineering is of the very best class, and the men who laid out and built the line deserve a great deal of credit.

"As we left the low country, and ascended among the mountains, we found that the air became cooler and purer the higher we went. We crossed the summit of the pass at an elevation of 2000 feet, and then descended 200 feet to Kandy. The scenery on one side of the mountains is about the same as on the other, and the whole range of hills in the centre of Ceylon seems to have been shaken up in a very lively way, and then cooled off just as it was. In whatever way we looked there were hills and valleys, and the slopes were generally so steep that they would not be at all easy to climb.

"We went to the Queen's Hotel in Kandy, and thought from its name that the establishment ought to be a fine one; but we think that if the queen knew what kind of a hotel is being kept in her name, she would order it changed: the house is dirty and uncomfortable, and the table the very perfection of badness. The proprietor says it is difficult to get good cooks in Kandy, and we believe him, for the ones he has are certainly very far from being good. In all the rooms there are notices that no credit can be allowed, and all patrons are expected to settle their bills before they leave the house. Doctor Bronson asked why these notices were put up, and they told him that the coffee-planters frequently come to the hotel and go away without paying their bills, and a good deal of money had been lost by trusting them.

"Kandy is quite prettily situated among the hills, and it looks as though a considerable amount of money had been spent on making it attractive. There is an artificial lake that has a road all around it where people go for their afternoon drives, and there is a small mountain just back of the town with a road winding around it, with shade-trees nearly all the way to protect you from the sun. We took a stroll there this afternoon, and found it delightful; every few hundred yards there are seats where you may sit and look at the scenery, and from some of the points you can look for miles over the lovely valleys and the hills covered with trees clear up to their summits.

"Kandy is the capital of Ceylon, and it is to this fact that it owes the great number of charming walks and drives; nearly every road and path bears the name of Lady Somebody or other, and there are so many of them that the list becomes tiresome after a while. But if the people whose names are thus preserved gave the money for making the roads and paths, I suppose we ought not to complain, as they have added very much to the attractions of Kandy. The place was favored by nature in supplying it with an abundance of tropical vegetation, and so there was an opportunity to spend money to good advantage."

CHAPTER XIX.

AROUND KANDY.—BOTANICAL GARDENS AND COFFEE PLANTATIONS.—ADVENTURES WITH SNAKES.

DOCTOR BRONSON had a letter of introduction to Mr. Walker, a merchant of Kandy, and delivered it on the morning after their arrival. He was cordially welcomed by that gentleman, and invited to visit the botanical gardens as a preliminary to breakfast, and also to take the two youths on the excursion. The botanical gardens are some two miles or more from the town, and there is a good road thither which forms a pleasant drive.

On the way to the gardens Mr. Walker told the strangers something about the place they were about to visit. He said the Botanic Garden of Ceylon was first established near Colombo, in 1799, but the locality proved unsuitable, and it was moved to two or three places in succession, and finally came to Kandy about sixty years ago. It had been carefully kept, and the expenditures for it had resulted in the creation of one of the finest open-air gardens in the world.

While he was giving them some of the details concerning it they arrived at the entrance, and passed within the gates. Magnificent collections of palms of different kinds, bamboos with trunks a foot in diameter, and growing in great clusters, as though a dozen of them came from a single root, green and flowering plants almost without number, nutmeg and cinnamon trees, tea and coffee plants, and hundreds of other botanical curiosities were passed in rapid succession. Mr. Walker called attention to the palms for which Ceylon is celebrated, and described their peculiarities. "You doubtless know all about the cocoa-nut palm," said he, "as you have just come from the sea-coast where it flourishes, but the Palmyra palm may be new to you. It is to the north of Ceylon what the cocoa-nut palm is to the south, as it furnishes food, clothing, and shelter to the inhabitants."

One of the boys asked if it bore the same kind of fruit as the trees of the sea-coast.

"There is a resemblance between the products of the two trees," was the reply, "but they are not the same. The Palmyra grows to seventy or eighty feet high, and the stem is nearly always straight, and ends in a tuft of fan-shaped leaves, with clusters of fruit as large as a cocoa-nut, but rounder. There are six or seven of these clusters, with ten to twenty fruit in a cluster, and each fruit contains three seeds or kernels filled with a white pulp that is eaten fresh, or can be dried and kept for any length of time. If the kernels are planted, they throw off sprouts the size of

YOUNG PALMS IN THE BOTANIC GARDEN.

parsnips; these sprouts can be eaten fresh, or dried in the sun, and the natives make various dishes from them, and also an excellent farina which forms the food of a great many people.

"The timber is very valuable, as it is one of the few woods the white ants will not eat, and it is used for a great many purposes; the leaves are fashioned into many useful things, and the chief use of the tree is for producing the coarse sugar that is made from its juice, in the same man-

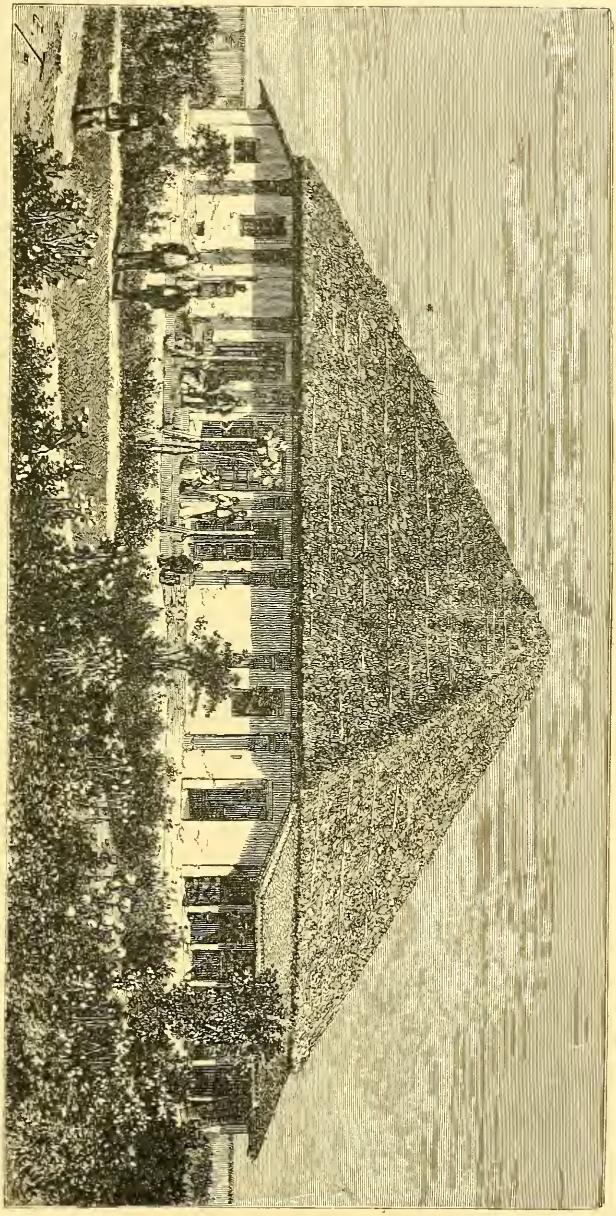
ner as from the cocoa-nut palm. It is a curious circumstance that the two trees will not flourish in the same region, and that both are nearly equally valuable to mankind. In the neighborhood of Jaffna, in the north of the island, there are more than six millions of these Palmyra-trees, and they support a great number of people."

Many of the palm-trees in the gardens were covered with vines and creeping plants; one of them, known as the beetle-vine, was full of bright blossoms that made a sharp contrast to the dark-green foliage. There

INDIA-RUBBER-TREE.

were several specimens of the India-rubber-tree, and Frank remarked that one of them reminded him of an American elm, with its wide-spreading branches, and its apparent fondness for the house near which it stood.

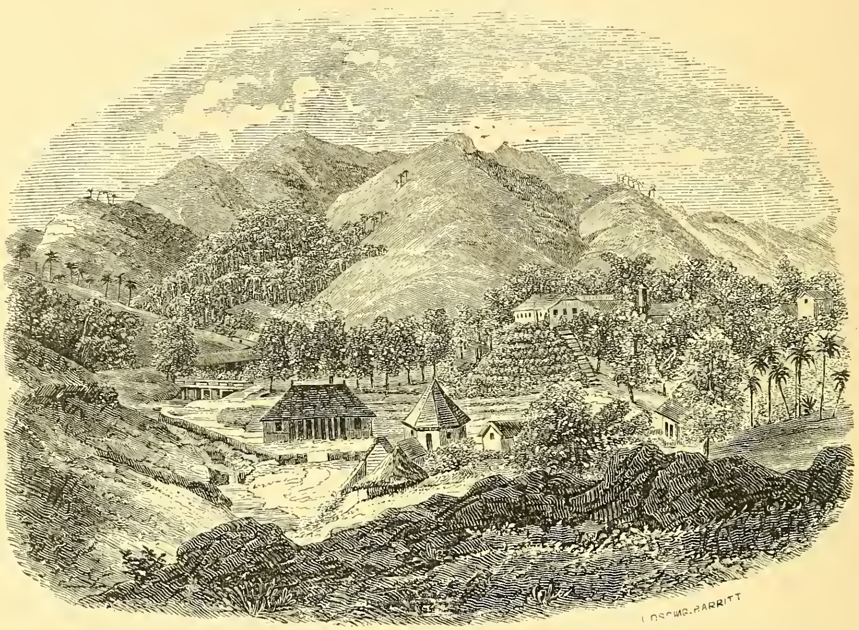
They had a pleasant stroll through the gardens, which cover an area of about one hundred and forty acres, and are beautifully laid out from one end to the other. A little river flows through the centre of the gardens, and in several places it has been widened into pools filled with aquatic plants. Altogether, the excursion of the morning was crowded



RESIDENCE OF A COFFEE-PLANTER.

with interest and instruction, and the boys returned to Kandy full of delight with what they had seen and heard.

After breakfast the party remained in-doors for several hours, partly on account of the mid-day heat, and partly in consequence of a shower



VIEW ON A COFFEE ESTATE.

of rain that came without warning. In the afternoon they went to see a coffee plantation belonging to the brother of their entertainer, and to learn something of the coffee culture of Ceylon. Here is the result of their observations:

"Kandy is the centre of the coffee culture of Ceylon; coffee grows at an elevation of 1800 feet and more, and the centre of the island has been found well adapted to it. There are now about 1200 plantations—they call them estates here—of an average extent of 250 acres each. Coffee land is very dear: a good plantation, with the trees bearing, everything in proper condition, and well situated, is worth $500 an acre. Wild and uncleared land is worth $65 an acre, and the man who takes it must be at the expense of clearing and planting, and can expect no returns under six years. Much money has been made in the business, just as it has been made in America by raising sugar and cotton; and,

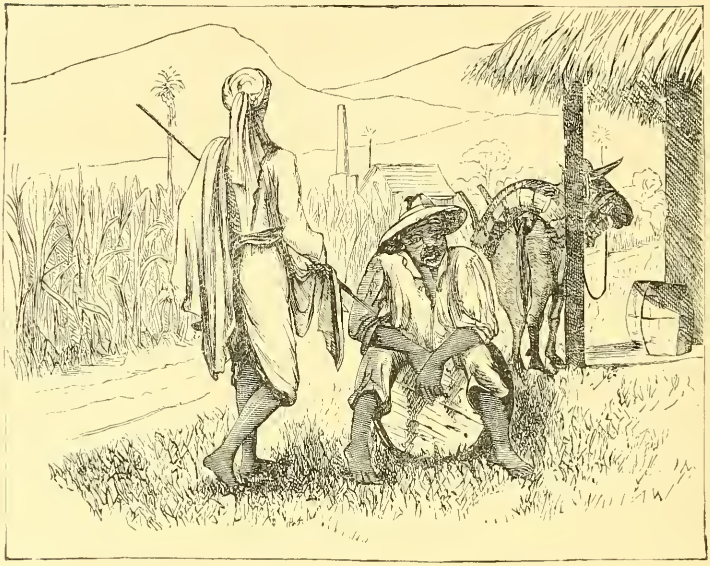
on the other hand, much money has been lost. There are many men in Ceylon who are poorer to-day than they were ten years ago, in consequence of their losses in the coffee business, and if any young man in America has an ambition to come here to make a fortune by cultivating coffee, he had better stay at home.

"Most of the coffee-planters are young Englishmen, with money or moneyed friends, who come or are sent to Ceylon to make their fortunes. The balance are generally the representatives of wealthy firms or individuals in Colombo, and owe their positions to personal influence or the advancement of a few thousands by way of security. An insight into the business may be obtained by glancing at the advertising columns of the Ceylon *Observer*, a newspaper published at Colombo. One firm advertises that it will make advances on crops not yet gathered, and another offers to make contracts for consignments. A man with money to lend desires a situation as manager of a coffee estate, and another who can control consignments wishes a similar place. We are told that nearly every house in Colombo is interested, one way and another, in the coffee estates, generally through advances made on the growing crops.

"The system is much like that which prevailed in the Southern United States before the war, when the cotton-planter on the Mississippi River received advances from his factor in New Orleans, so that when his crop was gathered nearly all the proceeds were required to pay the debts that had been accumulated during the year.

"The factor in Colombo furnishes the provisions necessary for the estate, and charges a good commission for his trouble. He supplies the tools and machinery for the use of the planter, and provides money for employing the laborers engaged in the cultivation. By the time the crop comes in a large debt has been created, and if the yield is good and the market is up, nobody has any occasion to complain. But of late years the prices have been so low that nobody has made anything, and many plantations have been kept up at a loss.

"Coffee culture in Ceylon and Java are pretty much alike, as the plant is the same, and the machinery for collecting the crop and preparing it for market is managed on a similar principle. The plant is raised from the seed, and begins to bear when it is six years old, and has attained the size of a large currant-bush. The berries are like large cherries, and are gathered by hand; they are run through a machine which separates the bean from the husk, and allows the former to settle to the bottom of a tank of water, while the latter are floated away through a trough. The beans are then dried in the sun, or by a fire if the weather



PLANTATION LABORERS

is cloudy, and when sufficiently cured they are put in sacks and sent to Colombo. Here they are sorted and again dried, so as to fit them for transportation to England or America. It is in the condition in which it left Colombo when the merchants get it in New York."

While they were going through the buildings where the coffee-berries were crushed, and the beans separated from the husks, Fred suddenly stooped, and then sprung back as though greatly alarmed.

Calling out "Snake! snake!" at the top of his voice, he seized a stick that was lying on the floor, and proceeded to kill the object of his fright. As he raised the stick his hand was seized by Mr. Walker; the latter smiled and said,

"The snake is perfectly harmless, and one of our pets. Don't kill him."

Fred gave an inquiring look at the face of his host to see if he was in earnest; satisfied that he was, he lowered his arm and took a second look at the snake, who did not seem at all frightened at the presence of strangers.

The reptile was about five feet long, and of an olive-brown color. Mr. Walker said the scientific name for this snake is *Pytas muscosus*, and there was a snake in India that closely resembled him, and frequently grew to seven feet in length. "We keep them about our houses and

other buildings," said he, "as you keep cats in America, and for the same purpose—to kill the rats. They are entirely harmless to us, but a deadly foe to rats; they go around the roofs and ceilings at night, and you will frequently hear a lively struggle going on between a rat and a snake. As the ceilings are often nothing but mats spread over poles, the combatants sometimes fall through, and when this happens in the presence of a person newly arrived in the country it is apt to disturb his nerves."

To show the powers of the snake the gentleman said something to one of the attendants, who immediately went out, and soon returned with a wire trap containing a live rat. The snake was instantly all excitement, and showed the impatience of a terrier to get at his prey. The trap was opened, and the rat released in the middle of the floor; the snake darted upon him with the rapidity of a flash, and in an instant snake and rat were struggling and rolling over each other in deadly conflict. In less than a minute the fight was over, and the snake was the victor.

"The rats are a great annoyance to the coffee-planter," said the gentleman, "and we gladly welcome any means of getting rid of them. We have several varieties, but the worst is the one we call the coffee-rat; he is about four inches long, with stiff, reddish-brown hair, and he makes his nest in the buildings or under the roots of trees. These rats climb the coffee-trees and eat the buds and blossoms, and they enter the houses and eat the berries while they are being cured. They go from one place

SHED ON A COFFEE PLANTATION.

to another in great swarms, and some plantations have been actually destroyed by them; a thousand have been killed on an estate in twenty-four hours, and sometimes they are so numerous that we offer rewards for killing them. But we never let a reward cover a period of more than a month or two; once it was given for a whole year, and we found that the natives had developed a new industry, and were raising rats in great numbers for the sake of the reward.

"The snakes, the cats, and the Malabar coolies are our best friends in getting rid of the rats; the snakes and the cats kill them for the love of doing so, and the coolies do it for the sake of food. They fry the rats

PLEASURES OF A MORNING WALK.

in oil, and pronounce them a great delicacy; and when they have more rats than they can dispose of fresh, they dry them by smoking over a fire, the same as you dry bacon in America."

The conversation naturally turned upon snakes, and the boys were not quite pleased to learn that Kandy was infested with venomous reptiles, and they were not unlikely to encounter one at any moment. Frank thought he should be careful about his morning walks in future, and Fred endorsed his cousin's opinion. Their host told them that the largest snake of Ceylon was the boa or rock-snake, and that happily he was perfectly harmless, like his friend whose performance they had just witnessed. Altogether, there are about fifty varieties of snakes in Ceylon,

nearly all of them being harmless to man; eight varieties live in trees, two belong to fresh water, and there are seven or eight sea-snakes. The most dangerous snakes are four in number—the cobra, the tic-polonga, the carawalla, and the green carawalla.

"The cobra," said he, "is the worst and most dangerous of all, and unfortunately he is sociable in his nature, and likes to come around houses; if one is killed near a house, his companion is sure to be seen in an hour or so looking for him. These snakes generally try to get out of the way, and do not bite unless trodden on or irritated; they like to wander around at night, and most of the accidents with them occur from their nocturnal habits.

"They have a puff of skin on each side of the neck which they inflate when enraged, and thus add to their naturally horrid appearance. From this circumstance they were named by the Portuguese the *cobra-di-capello*—cobra with a hood—on account of the general resemblance of the puff of skin to a hood. Many have a pair of spectacles on the back of the hood, and their general color is black. Jugglers tame them, and play with them without apparent fear, and there are indications that the snakes have some attachment for their masters, and learn to obey them.

"The tic-polonga, as he is called in the native language, is from four to five feet long, and has a thicker body than the cobra, but no hood. He is of a dark gray color, and rather difficult to rouse into anger; luckily, his movements are slow, and it is easy enough to get out of his way, if you know where he is. The snake-charmers are more afraid of him than of the cobra, as he is not as easy to manage, and his poison acts more promptly on the system. Birds and rats die instantly when bitten by these serpents, and their bites are nearly always fatal to men if the poison is fairly introduced into a wound."

Doctor Bronson asked their host if he had ever seen these serpents attacked by hawks or eagles; the answer was in the negative, and then the Doctor told how he once witnessed a fight between an American hawk and a mocasson snake or adder. The bird seized the snake, and rose with him in the air; he was probably a hundred feet from the ground, when suddenly the hawk threw back his head and fell as though he had been shot.

The Doctor ran to the spot, and found that the snake had bitten the hawk in the throat, and killed him with his poison. But the grip of the bird was firm, and the snake was fixed in the sharp claws, so that he could not get away, and speedily died from the wound.

"We have a snake in Ceylon," the host remarked, "that lives en-

tirely on other snakes, especially cobras. He is entirely harmless to man, and you may be sure we treat him kindly, and encourage his presence

FIGHT BETWEEN A HAWK AND A SNAKE.

around our premises. He is called 'raja-samp' by the natives, and his scientific name is *Bungarus fasciatus.* There is also a large hooded snake in India, but rarely seen in Ceylon, that is a great devourer of snakes, and he will swallow his own brother as readily as any other serpent."

"We have no snakes in America," replied the Doctor, "that live on their kindred, but there are several of our reptiles that show a great

hatred for each other. For example, the rattlesnake and the common black snake of the Eastern States are far from friendly, and when they meet there is pretty sure to be a battle. The rattlesnake coils itself for a spring, while the black snake moves rapidly from side to side to distract the attention of its antagonist, and to bewilder him. Finally, the rattler settles down with his head in the air and his mouth open, and then the other moves rapidly in a circular direction, and prepares to close the preliminaries by coming to the work.

"The rattler is bewildered in attempting to follow the movements of the black snake; the latter sees his chance and darts at the throat of

FIGHT BETWEEN A BLACK SNAKE AND A RATTLESNAKE.

his adversary, and at the same time encircles him in his folds. The black snake is a constrictor, which the other is not, and as soon as the grip is

made his powers of constriction are exercised. He winds about the rattlesnake, and every moment draws his folds more tightly. The latter has no chance to use his fangs, and the combat in nineteen cases out of twenty results in favor of the black snake. Evidently he fights from pure love of combat, for he does not attempt to eat his fallen foe."

On their return to Kandy our friends went to see the great curiosity for which the place is celebrated—a tooth of the founder of the Buddhist religion.

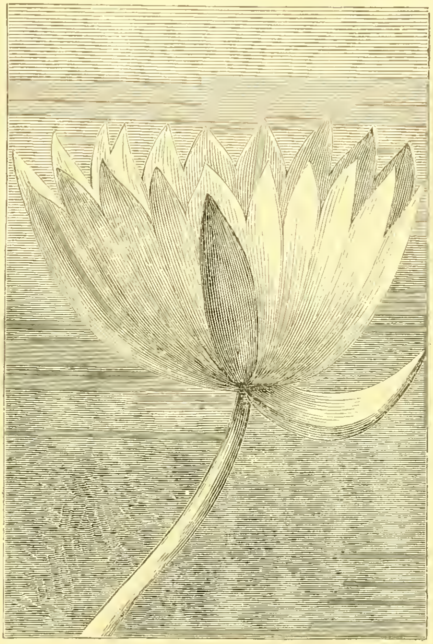
This wonderful relic is kept in a temple dedicated to Buddha, and guarded by priests of the religion of the Far East. Near the centre of the temple there is a room about twelve feet square, with no windows, and only a single narrow door; the atmosphere is hot and damp in consequence of the lack of ventilation, and the mass of jasmine, lotos, and other flowers that are brought there daily as offerings to the deity of the temple. Whenever visitors come to the temple the priests assemble, and consequently the room becomes crowded to an unpleasant degree. This was the state of things when our friends entered.

One of the priests who spoke English acted as guide, and sent a companion to bring the key of the shrine that contained the relic. This shrine was of the shape of a bell, and stood on a solid silver table in the centre of the apartment; inside of the shrine was a smaller one of the same shape, and then another and another, and finally, in the last and smallest, the tooth was displayed resting on a golden lotos flower. Great reverence was shown to the relic by the priests that were standing around, and all seemed glad of the coming of visitors, as it gave them an opportunity to see the object they prized so highly.

The boys thought Buddha must have been a man of more than gigantic size if the relic really belonged to him, as it is nearly two inches long, and resembles the tooth of a crocodile much more than that of a man. No one is permitted to touch it; but for several years after the capture of Kandy by the British the tooth was in their possession, and during that time it was carefully examined. It was pronounced nothing but a piece of ivory which had become yellow with age, and possibly from lying so long on the golden lotos. The latter is a very pretty work of art, and an excellent representation of the lotos flower as it appears on the walls of Egyptian and Indian temples.

This tooth has a curious history. According to the Buddhist chronicles, it was secured at the funeral of Buddha and carried to a temple in India, where it was kept 800 years. Then there was a war for its possession, and the king who held it sent his daughter with it to Ceylon: she

concealed it in the tresses of her hair, and was wrecked on the coast of India, where the tooth was buried for several days in the sand. Then a new ship was obtained, the tooth was dug up, and the journey to Ceylon completed.



THE LOTOS FLOWER.

The relic was kept in Ceylon a couple of hundred years, and then it went back to India, only to return again in a century or so to Ceylon. It has been moved about repeatedly—has been to China and Burmah, and there is a Portuguese account that it was destroyed by them, the viceroy himself pounding it in a mortar, burning the powdered bone in a brazier, and then throwing the ashes into the river. The account of its destruction is given in detail by several historians, but the priests of Kandy say it is entirely false, and the tooth was never in the possession of the Portuguese. It is pretty certain they destroyed something which they supposed to be the tooth, as it is a matter of history that the King of Pegu, on learning that the Portuguese were in possession of the relic, sent an embassy to negotiate for it, and offered a sum equal to a quarter of a million dollars for it, which was refused.

There was another relic of Buddha formerly exhibited in Ceylon—the bowl that he carried for the collection of offerings. All begging saints carry a bowl for the receipt of alms, generally a cocoa-nut shell. The one in question had wonderful properties; a poor man could fill it with a few flowers, but a rich man could not do so with 100, 1000, or even 10,000 bushels of rice! An army could drink from it without exhausting it, or even reducing the quantity of liquid it contained. The Mohammedans say that this bowl belonged to Adam, the father of mankind, when he lived in Ceylon, and descended from him to Buddha. It passed through many countries, having visited India, Persia, several provinces of India, and also China and Thibet. The trace of it has been lost for several centuries.

As they left the temple, after paying the priest for showing them the sacred relic, one of the boys asked if Buddhism was the only religion in Ceylon.

"Not by any means," answered the Doctor. "According to history, Buddha had a great deal of trouble in converting the Cingalese, as they were very ardent idolaters, and addicted to the worship of trees and serpents. Portions of the ancient faith still continue in the universal dread that the Cingalese have of killing a cobra; they will not destroy it with a blow from a stick or stone, but they put it in a bag and throw it in a river, so that it can have a chance of escape. Until very recently there was a temple at Jaffna dedicated to the snake goddess, and maintained by some of the descendants of the idolatrous priesthood.

"The Cingalese," the Doctor continued, "have great faith in demons, and every village has its demon-priest who lives upon the fears of the people. Everything that goes wrong is ascribed to the demons; and if a man falls sick or is injured, the priest is called to drive away the evil spirit that has caused the trouble.

"The most numerous demons are the yakkoes, who are supposed to live in old trees, and for this reason the natives will not have any old trees near their dwellings. They also set aside the fruit of certain trees in their gardens for the use of the demons, and sometimes a portion of the rice crop in a field is left ungathered for the same purpose. There is a general belief in sorcery and witchcraft, especially in the north of the island: the most of the native doctors are sorcerers, and when they cannot perform a cure with medicines they resort to incantations."

CHAPTER XX.

TRAVELLING IN CEYLON.—WILD ELEPHANTS AND THEIR HABITS.—ENCOUNTER WITH A BUFFALO.—FROM KANDY TO NEWERA-ELLIA.

A DAY was devoted to letter-writing, and to drives and walks around Kandy, and then the boys asked the Doctor where they were to go next.

"There are two or three routes from which to choose," was the reply, "and each has its own peculiar advantages, or the reverse. I have been considering them, and have selected the one that gives us the most to see in the little time we have at our disposal. We will start to-morrow morning for Newera-Ellia, which is on the road to Adam's Peak."

"Perhaps we will climb the peak," exclaimed Frank, "and repeat our experience of Fusiyama in Japan."

"Perhaps!" echoed Fred; "but we won't be certain of it till we have done it. But please tell us about the other routes you thought of," he added, addressing himself to Doctor Bronson.

"I had thought of going," responded the Doctor, "to some point on the eastern coast, and there taking a steamer for India; meantime I would have ordered our heavy baggage sent around by water, so that it would meet us on arrival. There are several of these places, and the towns and the routes leading to them are pretty much alike. The most important and interesting is Trincomalee—pronounced Trínk-o-ma-*lée*—which you can find on the map by drawing a line nearly due north-east from Kandy."

The boys had a map of Ceylon before them, and by following the Doctor's instructions they speedily found the place he had mentioned.

"You observe," he continued, "that it is quite a distance from Kandy to Trincomalee, and there is no railway to carry us. We should be obliged to travel by the ordinary roads of the country; conveyance would be difficult to obtain, and our fare not of the best. We should have a tiresome journey of several days through the forests and swamps of the eastern part of Ceylon, and I doubt if the novelty of the scenery

would repay us. The same would be practically the case if we went to Jaffna or Kalpentyn, other places that I had in mind—and, besides, we might wait some time there before finding a steamer to take us where we wish to go."

"Well," answered one of the boys, with a laugh, "please tell us about Trincomalee and what we might see on the way there, and then we shall be all ready for Newera-Ellia."

"Trincomalee is a town of about 20,000 inhabitants," responded the Doctor, "and stands on one of the finest bays in Asia, if not in the world. It would be a place of great importance on account of the magnificent port, if the country back of it amounted to anything; but, unfortunately, the region for a long distance is marshy and nearly useless, and so the fine harbor of Trincomalee is of no consequence. Moreover it is quite unhealthy, owing to the malaria from the swamps; and it is a common remark in Ceylon that when the Government wishes to get rid of its soldiers, it sends them to Trincomalee to die of fever.

"As to what you could see on the way I might name several things. We should see a tropical forest in all its glory, and make a practical acquaintance with the trees by resting in their shadows, and perhaps climbing their trunks through the aid of the parasitic plants that cover them. There is one tree a few miles out of Kandy which is the remainder of quite a cluster that formerly stood there. All the rest have been killed by the parasites, and this one, the last of the giants, is completely covered, and cannot stand many years longer.

"Then we should pass some of the tanks for which Ceylon is famous, or, rather, for which she was famous centuries ago."

One of the boys asked what these tanks were, and the Doctor explained their nature.

"Rice will not grow without water, and in ancient times a system was adopted of making artificial ponds or tanks to retain water that could be used in the seasons when the rains were not falling. The first of these ponds of which we have any record was built by one of the kings of Ceylon 437 years before our era, or more than 2300 years ago. It became the fashion for kings to build tanks for the benefit of their people, and at one time there was a great number of them; two kings are said to have built sixteen tanks each, and the fashion of building them continued more than a thousand years.

"Some were built in the level country, and others among the hills; many still remain, but the greater number are in ruins and quite useless. The engineers who built them became famous, and in the eighth

THE LAST OF THE GIANTS.

century the Rajah of Cashmere sent to Ceylon for engineers to construct tanks for him.

TANK SCENE IN CEYLON.

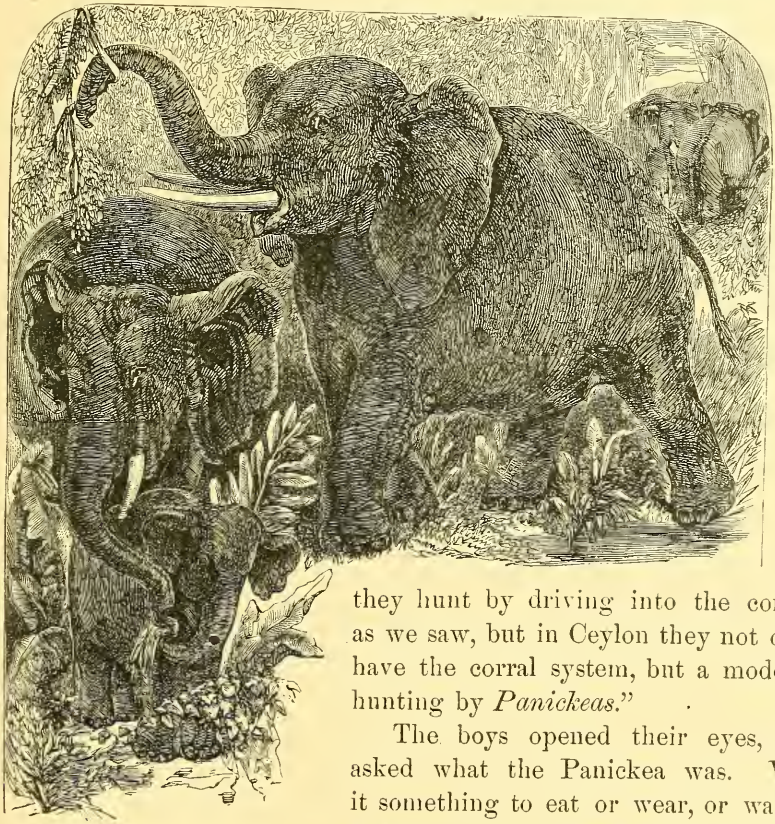
"The largest of these works in Ceylon is the great tank of Kalewera, which was built 1400 years ago. It is now in ruins and useless, but enough of it remains to show what it was originally; it is supposed to have been forty miles in circumference, and had an embankment of stone twelve miles long. There was another tank twenty miles in circumference, which was formed by damming a small stream with an embankment nearly two miles long and sixty feet wide; but, like most of the others, it is now useless.

"The Government has recently expended a great deal of money in repairing some of the ancient tanks. In 1867 they restored the old regulations of the kings of Ceylon relative to the use of water, the preservation of the embankments, and the settlement of disputes that are liable to arise. The English law-makers who examined these regulations said it would be very difficult to improve upon them; and as they were suited to the wants and habits of the natives, they were re-enacted in a body.

"So much for the tanks of Ceylon. Another novelty that we might enjoy in the journey to the coast would be the possible sight of a troop of wild elephants, as we should go through the region over which these great animals wander"

"That would be a sight worth seeing," one of the boys answered; "but the subject of elephants is not a new one, as you know we visited the elephant hunting-ground in Siam, and heard all about the mode of catching the game."

"Quite right," replied the Doctor; "but, while we are about it, I may as well tell you some things about elephant-hunting here that we did not learn in Siam, because they are peculiar to Ceylon. In Siam they hunt by driving into the corral, as we saw, but in Ceylon they not only have the corral system, but a mode of hunting by *Panickeas*."



ELEPHANTS AT HOME.

The boys opened their eyes, and asked what the Panickea was. Was it something to eat or wear, or was it a weapon to be used in killing the game?

"You are wrong in each guess," said Doctor Bronson; "the Panickea is a professional elephant-hunter, and his people have followed the business from time immemorial. He has the skill and cunning of the North American Indian or any other wily savage, and possesses a great deal of bravery, which is frequently called into use in his profession. The Panickeas live in the northern and north-eastern parts of Ceylon, and

when not engaged at their time-honored business they devote themselves to fishing, or the pursuit of other game than the elephant, or they hire out as guides and servants to foreigners.

TYING UP AN ELEPHANT.

"Two of these men will go on an elephant-hunt armed only with a few strong ropes of different sizes. They track the elephant through the forest or in the long grass of the open plain, and steal up to him with the agility of cats, and without being seen. The elephant has a habit of swinging one of his hind-legs when standing still; they take advantage of this circumstance to slip a noose over his leg; and if he is not swinging it they tickle him, as though a fly were biting, and thus induce him to make the desired movement.

"As soon as they have noosed his leg they dart from under his feet; if they are in the forest, one of them takes a quick turn of the rope around a tree, but if in the open country, they drop it and run toward the nearest woods. The elephant pursues them, trailing the rope after him, and as soon as they are in the shelter of the trees they manage to secure him in the way I have described. Then, while he is tied by the hind-leg, one of the men worries him and attracts his attention, while the other slips a noose around one of his fore-legs. Then he lies down and rolls in anger, and while he is doing it they bind him still more.

"When he is tied up and safe they leave him, and he is subdued by the process that we learned about in Siam. Great numbers of elephants were formerly caught in this way and sent to India, where there has always been a good market for them, and they are also largely employed on public works in Ceylon. When the English obtained possession of this country, elephants were so numerous that as many as 200 could be taken at a single drive in a corral, and the beasts did great damage to the rice crops in the part of the country where they lived. A reward was offered for all elephants killed, and so great was the slaughter that the bounty was paid for 3500 killed in the north of Ceylon in the years 1846–'48, and for 2000 killed in the southern part in the five years previous to 1856.

"This wholesale destruction made such a scarcity that not enough elephants could be obtained for the public works, and the Government not only took off the bounty but ordered that no more licenses to shoot elephants should be granted.

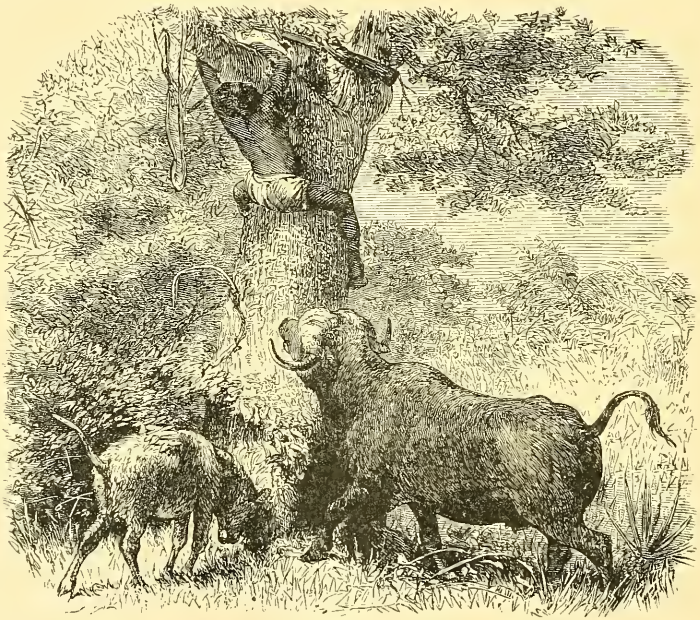
"Elephants generally travel in herds varying from half a dozen to a hundred or more; but it is not unusual to find solitary elephants that have become separated from the herds from causes that are yet unknown to anybody. These solitary elephants are known as "rogues;" the name describes their character, and is an exact translation of the Cingalese 'hora-alliah' or thieving elephant. They don't even associate with other rogues, but travel singly, and do all the mischief they can; nearly all the damage to crops is caused by them, and some of them delight in concealing themselves near the roads and paths, and killing men who attempt to pass. They are very hard fighters, and the glory of killing a rogue elephant is greater than that of slaughtering a whole herd of ordinary ones.

ELEPHANTS UNDER A BANYAN-TREE.

"Another game animal that we might encounter on our way to the

coast is the buffalo. Remember, the buffalo of Ceylon is no relative of the American buffalo, but is quite a different animal. He is domesticated, and used for ploughing and other heavy work, just as he is in the Philippine Islands and other parts of the East we have visited. He is docile enough when tame, but when wild he shows a good deal of ugliness not only in his appearance but in his disposition.

"There are many herds of wild buffaloes in the northern and northeastern parts of the island, and they prefer the open country to the forests; during the daytime they like to lie in the mud or in pools of water,



A NATIVE TREED BY A BUFFALO COW AND CALF.

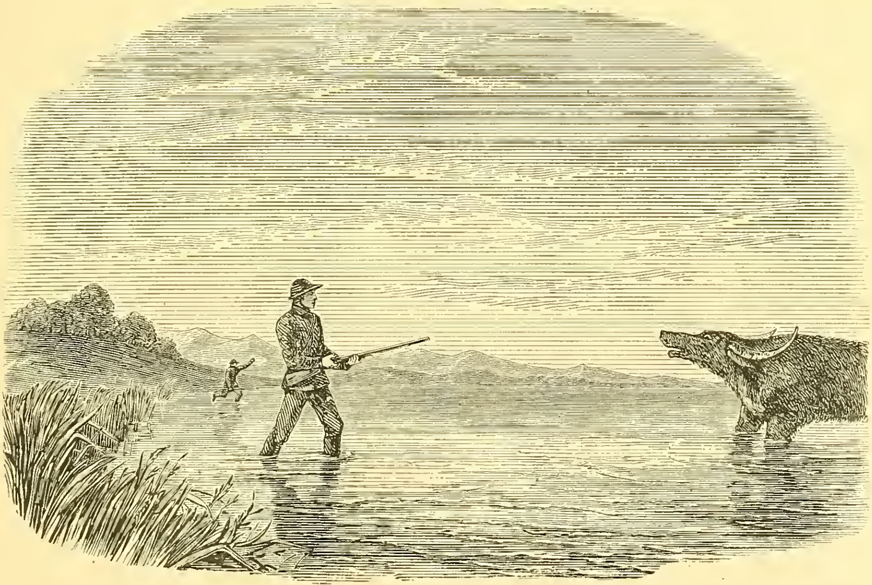
and are generally to be found around the old tanks in the lower parts of the country. They get into the water with only their heads visible, and if they can find a mud-bank to roll in when water is scarce, they are quite well satisfied. When a herd is disturbed, and there is a possibility of danger, they draw up in line with some of the oldest in front, and when they get in this position it is an even chance whether they will advance or retreat. They often rush at the natives when the latter are not looking for them, and more natives are killed by the buffaloes than by all other kinds of wild animals put together.

"I once saw a native driven up a tree by a buffalo cow and calf, but

he was not altogether unoffending in the business, as he had fired at the cow and wounded her. He just managed to keep clear of her horns and seize a lower limb of the tree; he clung to his gun, and as soon as he got safely among the limbs he reloaded and shot his pursuer. The calf remained, and he fastened a rope to its neck and with some difficulty dragged it home.

"The same day I was pursuing a buffalo that tried to escape by swimming a small pond. I ran around the head of the pond so as to meet him when he came out of the water, and had just entered it when he struck the solid ground. I fired when he was about twenty yards away, and put a bullet into his shoulder, which was the best spot I could aim at as he stood. I followed it with another bullet in the other shoulder, and with the same effect; the blood flowed steadily from both the wounds, but he did not show the slightest inclination to fall; on the contrary, he stood there and faced me, and made ready to charge. I felt for another cartridge to finish him with, or at all events to keep him where he was. To my horror, I found that I had no more cartridges about me, and my servants who carried my guns and ammunition were at least half a mile away.

"I dared not turn around to run, as my doing so would have been



A DANGEROUS PREDICAMENT.

the signal for him to pursue me, and if he did, I had not the slightest chance of escape from being gored and trampled to death. I saw my gun-bearer coming, but he was still far off, and the brute was making ready for a charge. Men must think quickly under such circumstances, and my wits came to my aid.

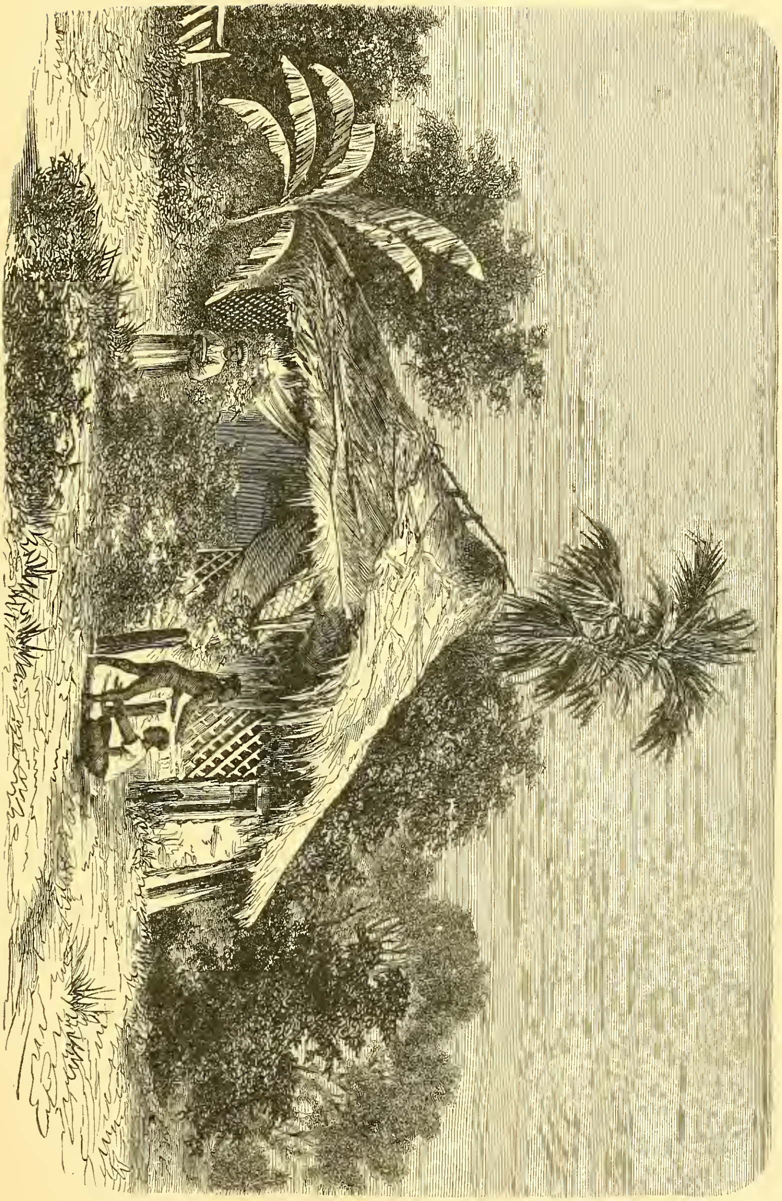
"I had some loose powder in a flask, and a handful of small coins that would just go into the muzzle of the gun. Luckily the coins were in a rouleau, just as you see gold in a banking-house; it took me only a few seconds to drop in a heavy charge of powder and the roll of coins on top, and the moment he rushed on me I fired.

"The load struck him full in the face and stunned him; the instant I fired I turned and ran for a tree about a hundred yards away, and the time gained by bewildering him with the shot was just enough, without a second to spare. He stood near the foot of the tree and watched me for some time, the blood pouring from the two wounds I had made in his shoulders; after a while one of my attendants crept through the grass and passed my rifle to me, with a lot of fresh cartridges, and I was soon able to finish the brute. Sir Samuel Baker had a similar experience while hunting in Ceylon; in fact, it was so nearly like mine that the two stories have sometimes been mistaken for each other.

"And now that you know what might be seen on the road to Trincomalee," said Doctor Bronson, rising from his chair, "we will get ready for Newera-Ellia. We go there partly by rail, and partly by carriage-road; the train starts at seven o'clock, and leaves the main line at the first station from Kandy. The branch carries us to Gampola, and there we leave the train and take a carriage the rest of the way."

They were off the next morning, according to the programme; the railway only carried them a dozen or fifteen miles, and then they mounted what was called a coach, though it was really nothing more than a strong wagon, adapted to the rough roads of the mountains. The first part of the ride took them through a series of rice-fields, coffee plantations, and native villages of huts thatched with palm-leaves: they had an opportunity of seeing the native children playing before the doors in all the glory of nothing to wear.

Up and up went the road, and after a time the coffee estates gave way to tea plantations. The Doctor told the boys that coffee in Ceylon grows at any elevation between 1800 and 4000 feet, and tea flourishes between 4000 and 6000 feet. Tea culture in Ceylon is in its infancy, and most of those who have tried it have found it unprofitable; but they are persevering, and feel confident that it will turn out all right.



NATIVE HOUSE AND CHILDREN.

The tea-planters say they have the same climate as Java, and if the latter can produce tea to advantage, there is no reason why it should not be profitable in Ceylon.

They had charming scenery all the way, and in many places it was unusually attractive. At one station (where they changed horses) the view from the veranda included a magnificent water-fall, where a good-sized river dashed in three streams over a precipice and united just below in a single torrent. As they rode along, the panorama of mountain and valley was constantly changing, and every minute seemed to have a new surprise in store for them.

They reached Newera-Ellia late in the afternoon, and were glad to surrender their seats in the uncomfortable coach. They had found the air growing steadily cooler as they approached their destination, and as the afternoon advanced it became necessary for them to don their thick overcoats. A fire was burning in the parlor of the hotel, and our friends were not at all reluctant to accept some of the heat it threw out.

There were carpets on the floors, and the walls of the house were made as though there was really a desire to exclude the cold rather than to welcome it. To the youths who had been so long in the tropics, and had struggled with the heat nearly every day and hour since their departure from Hong-Kong, it was rather a strange sensation to tread on soft carpets and sit around a cheerful fireplace, and they began to wonder whether they were really in Ceylon, or were dreaming.

We will let the boys tell the story of their visit to this part of the island, which they did in their next letter to friends at home. Following the plan they had found so effective, they divided the labor and devoted themselves to different parts of the description; they did it so skilfully, that when they had finished the letter it appeared to have been the effort of but one person instead of two. Perhaps they had a hint from Doctor Bronson, and possibly they did the whole work without assistance; *quien sabe?*

CHAPTER XXI.

SCENERY AT NEWERA-ELLIA.—ASCENT OF ADAM'S PEAK.

HERE is the letter referred to in the last chapter:

"We have had a delightful experience since we left Kandy, and should have been very sorry to miss the journey to Newera-Ellia. The road winds in a zigzag among the hills, and sometimes we could look down hundreds of feet upon the torrents that foamed along through the valleys. For several miles the route follows the Mahavilla-Ganga, which is the largest river in Ceylon, and goes into the sea near Trincomalee; wherever the road crosses the river it does so on a substantial bridge, and at one place there is a suspension-bridge so high up that it made us dizzy to look over the side.

A TROPICAL FERN.

"They tell us that twenty years ago the country was prettier than it now is, because the hills were then covered with dense forests of tropical trees and ferns, which have been cleared off to make room for coffee plantations. There is one charming valley called Kotmalee, which has a range of mountains on the south-east side, some of them several thousand feet high, and the Mahavilla-Ganga winds through it, sometimes presenting a smooth surface, and again broken into foam by the rapidity of its current over the rocks. At the end of the valley the mountains rise quite sharply, and we had a hard climb of fifteen miles to get from there to Newera-Ellia. The road ascends one foot in every fourteen, and you can readily understand that the horses had no easy work to drag the wagon up this steep incline.

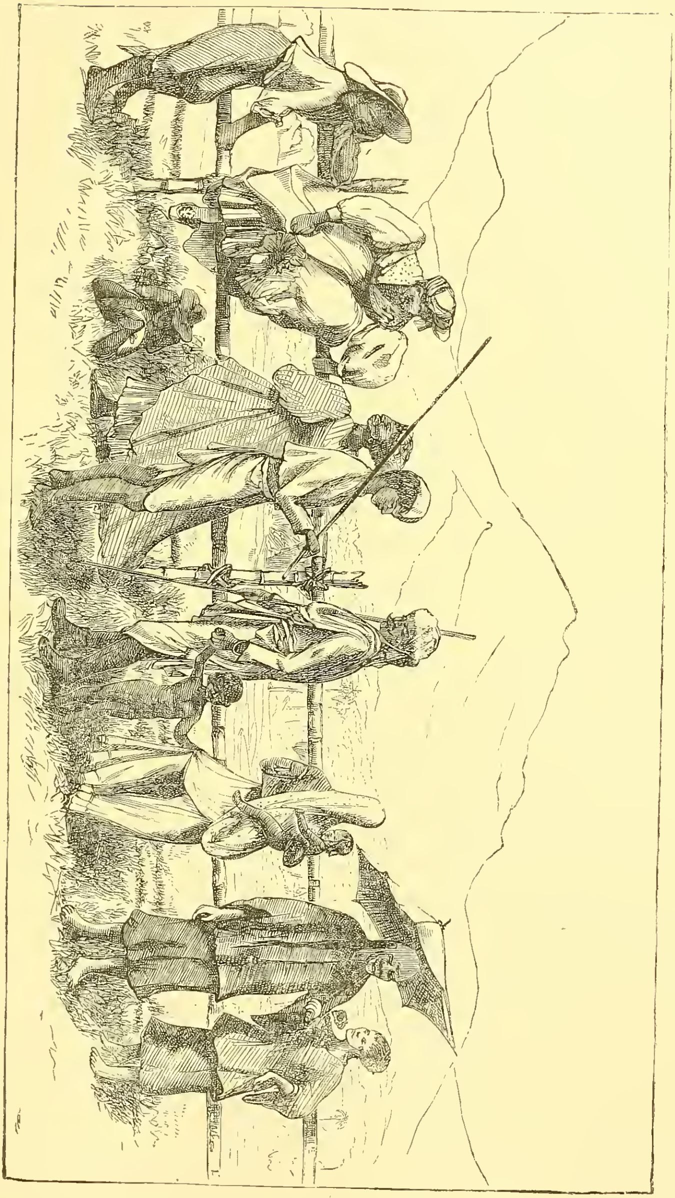
"Here we are, 112 miles from Colombo, and 6240 feet above the level of the sea. We are on an undulating plain three miles long by one wide, and the ground is covered with rich grasses and with lots of flowers in blossom; the mountains rise around us, but there are not a great many of them, as we are nearly up to the height of most of the mountains of Ceylon.

"Newera-Ellia is a sort of Saratoga for the inhabitants of Ceylon, or rather for the foreign portion of them. People come up here as often as they can to escape the heat of the coast, and even the inhabitants of Kandy do not despise the place. The change is something like magic; in Colombo the heat and dampness are oppressive, but up here you need a fire and blankets to keep comfortable, and in the winter the ground in the morning is white with frost. Roses and other flowers of the temperate zone grow here, and the blackbird and robin have been imported, and get along finely. Even a day or two of this atmosphere has a wonderful effect upon the visitor from Colombo, and some who cannot afford a longer time run up here on Saturday, return Monday, and find themselves vastly benefited.

"We are so high up that the air is rarefied, but we have no difficulty in breathing. Many of the invalids, however, find it hard work to get their breath, and some have been compelled to go away very soon after their arrival, on account of the injury to their lungs. There is quite a town here, with church, hotel, reading-room, and other public resorts, and in some seasons of the year the place is crowded so that a stranger cannot get in. The temperature is about 53° in the morning, 70° to 75° at noon, and 60° at sunset, and it gets very cold in the night, with frost on the ground from December to March. All the English vegetables and flowers grow here, and so do strawberries and other bush fruits, but peaches will not ripen, and the cherry-trees turn to evergreens, and will not even blossom.

"The Government has built a sanitarium for the officers and soldiers of the troops serving in Ceylon, and there is always a detachment stationed here. They have a race-track also, and on frequent occasions they get up some exciting matches. Everybody goes—natives and all—and it must be an interesting sight to see the different races at the races. [N.B.—This joke was intended by Frank, who made it.] The natives are very fond of watching the horses go round the track, and sometimes they follow the example of the English, and make bets on the result.

"They have a band of music, and it plays every other day in front of the regimental barracks; and there is a club where they have balls and



WAITING FOR THE RACES.

receptions: they keep hounds for hunting elk and other large game, and another pack for hunting hares. Altogether they manage to have a good time, and any one who can possibly spare a couple of days to visit Newera-Ellia ought to come here.

"But there are drawbacks to the fun, and it is only fair that we should tell you about them. There are insects of various kinds to trouble you, and the worst of them is the land-leech. He does not live in the water like the ordinary leech, but grows on the trees and bushes, and crawls on the ground; he can drop on you from the trees when you pass beneath them, and he can climb up your body and get inside your clothes. When empty they are not much larger than a needle, but when filled with blood they are as large as a goose-quill, and about two inches long. You can hardly see the young ones, as they are little thicker than hairs; but let them once get fastened to you, and you feel them. So bad are they in some places that they drive people out of houses, and they have attacked persons travelling in carriages by dropping on them from the trees as they passed beneath.

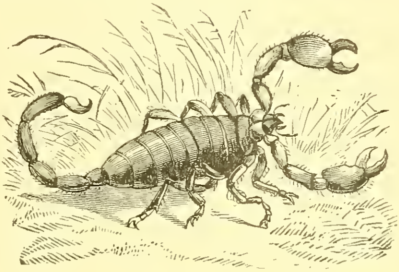
"If your blood is in a bad condition, their bites are apt to cause sores which are difficult to heal. In the last war the English had with the natives, the leeches caused more deaths than the snakes, and a great many of the sepoys and coolies employed here died from their bites. We have been bitten by a few of them, and don't want any more experience of the kind. It is a good plan to carry a lemon in your pocket, and when one of these leeches fastens to you, a few drops of lemon-juice will make him let go. The natives smear their bodies with cocoa-nut oil, which prevents the leeches taking hold, and this is perhaps the reason why so much oil is used in Ceylon.

"They have water-leeches in great number, which frequently cause the deaths of cattle. They enter the nostrils of the poor brutes when the latter go to drink, and after gorging themselves they fall off and leave the wound to bleed. Very often it does so till the blood, accumulating in the throat, suffocates the animal.

"While on this subject, we may as well say that Ceylon is reputed to contain more than 10,000 kinds of insects, besides several parts of the island to hear from. The list of all these varieties might possibly be a little tedious, and so we won't try to give it, but will briefly say they include pretty nearly everything you can think of in the insect line. In the morning, and also in the evening, the hum of the wings of those that can fly is like the noise of machinery in a mill; at noon they are comparatively still, as the heat seems to shut them up. The most of them

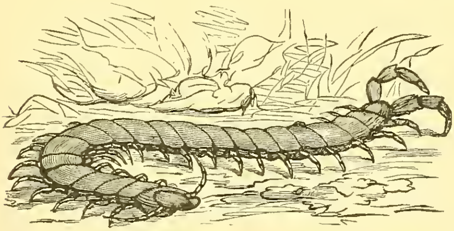
disappear at the end of the monsoons, but they come up again ready for business in a month or two.

"The white ant, as already mentioned, is one of the most destructive of these pests, since he will eat nearly all kinds of wood, and there are persons who say he is fond of knife-blades, needles, and similar things, and can even get away with a cannon-ball. Closets, where meat and other things for the table are kept, must have the feet stand in saucers filled with water, or they will be overrun by these ants; and in some parts of the island it is the practice to fix the beds in the same way, to prevent the disturbance of the occupants.



SCORPION.

"There are moths, and beetles, and centipedes, and millipedes, and scorpions, and dragon-flies, and many other things in great number, and there is a little thing they call the tic that is about as large as the head of a pin, and makes trouble enough to be heavier than a cat. He gets on the skin, and buries himself in it, and you must lift him out with the point of a knife if you want to be rid of him, as you generally do. There are bees, and fleas, and caterpillars, and there is a curiosity they call the guinea-worm, which grows under the skin around a person's ankles, and gives him lots of trouble. It is like a fine thread, and grows to be several feet in length; in order to get rid of it, the flesh must be cut into, and every bit of the worm removed, and you can readily understand that the operation is not an agreeable one.



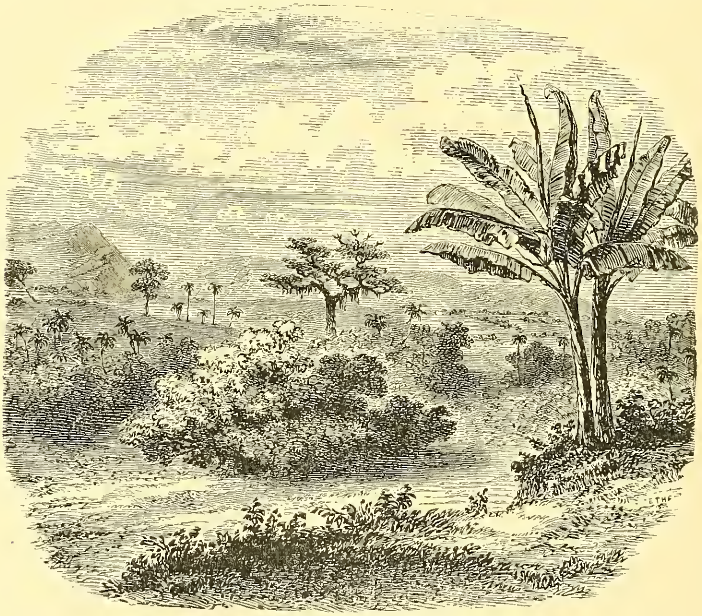
CENTIPEDE.

"Well, that's enough about these unpleasant things — we'll come back to other matters.

"There is a dome-shaped mountain on the north-eastern side of the valley which is called Pedrotallagalla, and is the highest in Ceylon, being 8280 feet above the sea, or nearly 800 feet more than Adam's Peak, the most famous mountain of the island. We wanted to go to Adam's Peak, but find we cannot spare the time, and so we must be contented with taking the story of the journey from others.

"Adam's Peak lies between Newera-Ellia and the sea-coast; in fact, it is nearer to Colombo, in an air-line, than Kandy is. To go from here, we should have to cross two or three mountains, and the best way to visit it from Colombo is to go from that place directly to Ratnapoora, on the Kaluganga. Ratnapoora is a nice village at the foot of the mountains, and just as you leave the flat country of the coast; from there the distance to the summit of the peak, as the crow flies, is about eight miles: but it is nearly twenty by the roads and paths.

"We will give the story of the ascent of the peak in the words of



A VIEW IN THE FOOT-HILLS.

the gentleman who told it to us, as near as we can remember them. Here goes:

"'We left Ratnapoora early in the morning on horseback, and rode through the jungle to Gillemalle, which is a village of a few huts on a little plain among the thick forests. From here the road winds through hills and valleys in a jungle so dense that for more than half the way all the light of the sun is excluded. You can hardly imagine a more up-and-down road than this, and it is very pretty, as there are many tiny brooks and larger streams dashing among the rocks, and every turn in the way gives you a fresh surprise. But the land-leeches spoil a good deal

of your pleasure, as it is impossible to keep them off, and once in a while you have to stop and remove such as have got beneath your clothes.

"'You have good reason to know the forest is not desolate, as you frequently see the tracks of wild elephants, pigs, leopards, and other game animals, and it is not impossible that you may encounter some of these denizens of the wood. But if you let them alone they are not likely to disturb you—and, as they can hear you coming long before you have a chance of seeing them, they are pretty certain to keep out of your way.

"'The road rises quite rapidly as you go from Gillemalle, and every little while you have fine views from the openings in the forest on the crests or sides of the foot-hills. The plains stretch away below you, and

NATIVES OF THE FOREST.

the hills seem like great mounds of tropical verdure, as they are covered quite to their summits with trees and smaller vegetation. In some places the road winds around cliffs so steep that you can roll stones over their

sides, and hear them rattling and crashing for several minutes in the deep valleys below.

"'The last inhabited spot on the road is Palabaddula, and here you must leave your horses and proceed on foot, as the path is quite impassable for saddle animals. You cross a ravine on a narrow foot-bridge, and then you go on through a thick forest till you come to a level platform or bit of table-land called Deabetine. A traveller who came here five hundred years ago says, "There was at Deabetine the mark of Adam's foot, a statue with the left hand on the knee, and the right hand raised toward the west, and, lastly, the house that Adam made with his own hands." The mark of the foot and the statue are still there, but the house has gone.

"'After leaving Deabetine, the road goes to a large torrent, where it is the habit of pilgrims to bathe, in order to purify themselves for the visit to the sacred temple on the summit. A little way beyond the stream you come to four flights of steps cut in the solid rock; nobody can tell their age, but they were there eight hundred years ago, and were then so ancient that their origin was unknown. The way is so steep that the ascent would be very difficult without these steps.

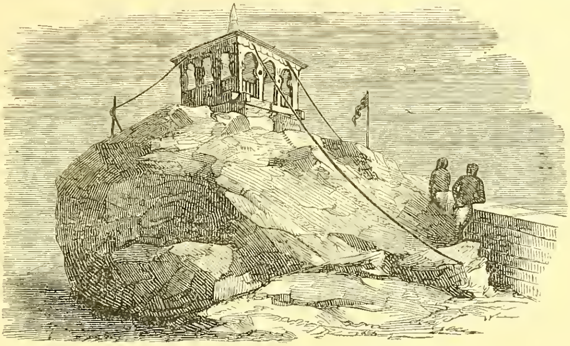
"'Then you pass another ravine, and then you come to a great rock about fifty feet high that forms the summit. Here you climb by hanging on to some iron chains fixed in the solid rock, and I don't see how anybody ever got up there without them; they have been there a thousand years or so, and are mentioned by Marco Polo and other ancient writers. Some are newer than others, and are probably the gifts of rich pilgrims to replace those that were worn or rusted out.

"'When you stand all panting and exhausted on the summit, you find yourself on a little terrace surrounded by a low wall, and containing a temple which is held in place by iron chains that go over its roof. The temple itself is on a mass of rock at one side of the terrace, and inside of the temple is the famous *sri-pada* or footprint.

"'When you examine the footprint you cannot help thinking that Adam, or Buddha, or whoever stepped there, must have been a person of extraordinary size, as the print is about five feet long by two and a half in width. It is apparently a natural indentation in the rock, extended artificially to represent the shape of the human foot. There was formerly a cover of solid gold over the footprint, but it was lost long ago, and the only cover there at present is made of brass.

"'The pilgrimages of three classes of religionists are made to this temple—by Mohammedans and Malabar Christians in honor of Adam,

and by Buddhists in honor of the founder of their religion. The three are often mixed together during the month of March, which is the time of the greatest number of visitors; but in spite of this mingling, and the



TEMPLE ON ADAM'S PEAK.

opposite views professed by the pilgrims, there is no quarrelling, and all seem impressed with the solemnity of the place, and the magnificence of the view from the mountain. The panorama is a very fine one; the southern half of Ceylon lies before you like a map, and away in the distance you see the sunlight sparkling on a beach of shining sand, while beyond it the light plays on the waves of the ever-restless sea. The rivers wind through the plain like threads of silver in a rich carpet, and the breezes from the cinnamon groves and the flowers in perennial bloom bring delicious odors to your nostrils. The man who can look from the top of Adam's Peak, when the clouds have vanished and the great picture is spread before him, and not be impressed by the sight, must be made of something little better than the inanimate earth.

"'On the summit is a spring from which the pilgrims drink; occasionally leaves are found floating on the water of this spring, and the natives believe it has a connection with paradise, and that these leaves come from there. There is also a spring near Deabetine; the leaves that are found in it are thought to come from a garden that Adam established not far away, but anybody who tries to find it will never be allowed to return to his friends.

"'There were two of us who made the ascent, accompanied by four local guides and servants to help us along. When we came back to Ratnapoora our men said we could return to the sea by the way of Caltura, by descending the Kalu River, as the current was swift and the journey would take only a short time. They procured us a boat which consisted

TROPICAL GROWTH NEAR RATNAPOORA.

of two hollow logs a few feet apart, and connected by a platform; on this platform we had a comfortable place to sit, while a couple of boatmen stood at bow and stern and managed the craft. We had several narrow escapes from being overturned in the rapids; but all went well, and we arrived safely at the great road where we took the coach for Colombo.'"

The letter was finished at a late hour in the evening, and soon after the closing words had been written the boys were snug in bed. The next morning they started for the return journey to Colombo; while descending one of the long hills between Newera-Ellia and the railway-station a part of the harness of their team gave way, and the coach was overturned on the very edge of a ravine where a brook rattled along a couple of hundred feet below. Had they gone two yards farther they would have tumbled down the whole distance and been dashed to pieces, and it is fair to believe the entire trio felt that they had had a very narrow escape. The driver told them that accidents were of rare occurrence, but he admitted that once in a while they had something of the sort. Of late years the road has been considerably improved by the authorities, but it is yet far from being complete.

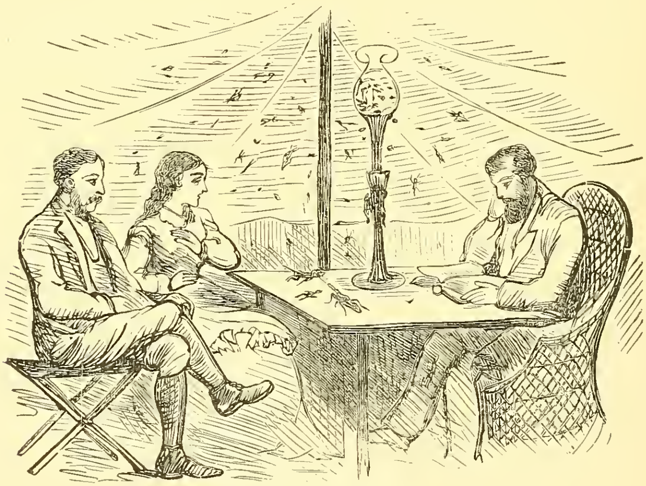
A MORNING CALLER.

They reached Colombo on the evening after leaving Newera-Ellia, and returned to their old quarters in the hotel. In the morning, while the Doctor was busy with plans for their departure, the boys read and corrected their letter, and at the suggestion of Frank a postscript was added, giving a brief account of the return journey, and closing with a description of the visitors that were just then calling on them.

"Our visitors are very numerous," said the letter, "and their names are crows. They are all through the room, and they stand on the blinds and the window-sills, and watch their chances when we are breakfasting to steal something from our plates. One of them just now came down

and took away a cracker from a plate that was on the table where we are writing, and it is not unusual for them to seize the bread you have in your fingers. They are a little shy of strangers, but not much; and as for the waiters in the hotel, they don't mind them at all. They are never harmed by anybody, and consequently it is not surprising that they are so tame.

"There are many insect visitors, but we have grown so accustomed to their presence that we do not mind them until they actually crawl over us. They are worse in the evening than by daylight, as the lamps and candles attract them; they do not wait for an introduction, but make themselves at home as though everything belonged to them."



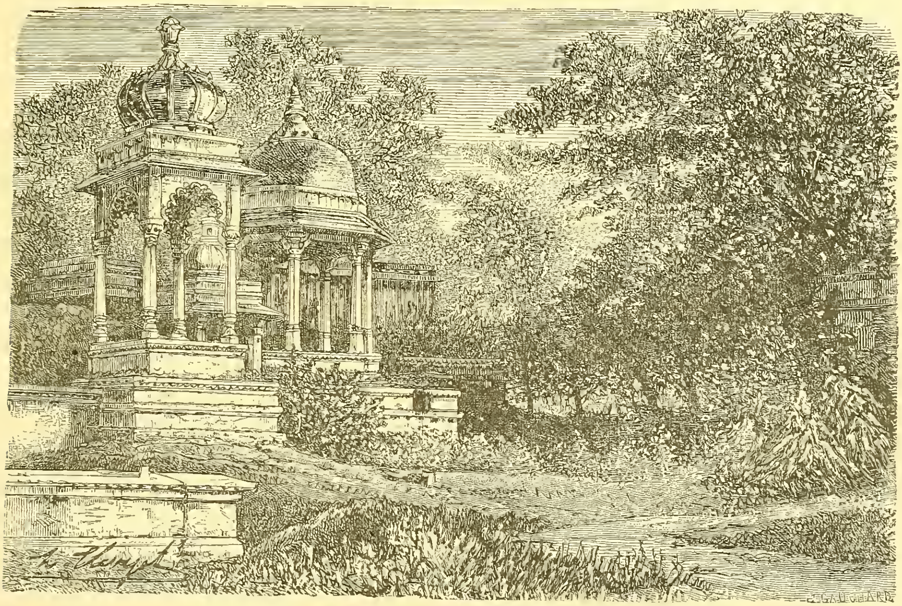
EVENING VISITORS.

CHAPTER XXII.

FROM CEYLON TO INDIA.—A MARINE ENTERTAINMENT.—THE STORY OF ROBINSON CRUSOE.

THERE are several ways of going from Ceylon to India. Doctor Bronson and the youths took them all into consideration before making their final decision, and settling upon their route of travel.

Once a week a steamer goes from Colombo to Tuticorin, which is at



TEMPLE AND TREES AT TUTICORIN.

the southern end of the great peninsula of Hindostan. From Tuticorin there is a railway which connects with the whole railway system of India; few people are aware of the extent to which railway construction has been carried in the land of the Bramins, and it is not surprising that the

boys listened with something akin to astonishment, as the Doctor leaned back in his chair and grew eloquent over what the builders of the iron road had accomplished in this part of Asia.

"At the time of the Mutiny, in 1857," said the Doctor, "there were barely 200 miles of completed railway in all India. From Calcutta northward the line was finished to Ranegunge, 120 miles; and there were about seventy miles in operation from Bombay toward Poonah. At present there are nearly if not quite 7000 miles of iron road in India, and every year sees a considerable addition to the grand total of miles. By zigzagging across the country somewhat, it is possible to travel from Tuticorin in the south to Lahore and Mooltan near the northern frontier. The railways are of great importance in a military point of view, and if they had existed in 1857 as they exist now, the Mutiny would have been next to impossible.

"Let me give you a general idea of the entire system as it now is, and for convenience we will start from Calcutta, the capital. The general direction of the line from Calcutta is north-westerly. Benares is 476 miles away, Allahabad nearly a hundred miles farther, and Cawnpore another hundred. Delhi is 955 miles from Calcutta, and when we step from the train at Sher-shah, on the banks of the Indus, eleven miles from Mooltan, we are 1510 miles from the capital city. From Sher-shah we can proceed by steamboat on the Indus to Kotree in Scinde, whence another railway will carry us to Kurrachee (Kur-*rach*-ee), near the entrance of the Persian Gulf. There are several branches intended as feeders to the main line, and also as military conveniences—notably, one from Benares to Lucknow, and another from Cawnpore to Lucknow. From Allahabad to Bombay there is a well-built line, and there is a line from Delhi and Agra through Central India which enables the traveller to reach Bombay by a different route from the one just mentioned.

"From Bombay there is a line northward to Baroda, and southward to Madras and Tuticorin, and each of these lines has several feeders that you can see on the maps. The whole net-work is well devised, and has cost a vast amount of money, but it is worth all it cost. A writer, who recently travelled through this country, has summed the matter up as follows:

"'From the foot of the Himalayas and the Hindoo-Koosh, the iron horse has a pathway to Cape Comorin and the tepid waters of the tropic seas. In the north he drinks the waters from the melted snows of the loftiest mountains on the globe; in the south he sniffs the spice-laden breezes from palm-clad Ceylon, and sees the pole-star hugging the horizon and anticipating the advent of the Southern Cross.'

"We will not go by way of Tuticorin," Doctor Bronson continued, "as we shall have quite enough of travelling by rail without making the long journey; and, besides, it would carry us to Bombay if we stuck to the railway, and we want to keep that city for our point of departure from India. We can, if we like, go by rail from Tuticorin to Madras, and thence to Calcutta by steamer; the objection to this course is that there are not many things of importance to see on the way, and the journey will be fatiguing.

"For the same reason that we do not wish to go all the way by rail, we will not take the weekly steamer from Colombo to Bombay, as it brings us to that city before we have seen anything of Northern India.

"After considering all the routes, I think we had best take the weekly steamer from Colombo to Calcutta; it stops at nearly a dozen points on the coast, and gives us an opportunity to see a great deal that we might otherwise miss. It travels generally at night, and stops during the day at a port, and thus we can economize our time to decided advantage. The steamer leaves this afternoon, and we can go leisurely on board after lunch."

The recommendations of the Doctor were immediately accepted by Frank and Fred, and they completed their preparations for departure by packing and securing their trunks. At the appointed hour the baggage was piled into a cart drawn by a couple of bullocks, and went to the landing-place in charge of the porter of the hotel. The distance being slight, and the afternoon cool, the party followed on foot.

"I declare," said Frank, as he watched the retreating cart with the baggage, "I've forgotten something!"

"What is that?" Fred asked, in astonishment; "I thought it was one of our rules never to forget anything?"

"I haven't forgotten anything of our property, if that's what you mean," Frank responded; "but it's something I have intended to write about."

"That's no serious consequence," said the Doctor, "as you will have an abundance of time on the steamer. What is it?"

"It's the curious vehicles they have here in Ceylon, drawn by bullocks, and by bullocks that trot, too. I'll write it out when I get on the ship, and make sure I don't forget any more."

They had no trouble in getting to the steamer, though they narrowly escaped a drenching from a wave that broke over the bows of the boat that took them across the harbor. As soon as they were on board Frank went below, and devoted himself to the production of the following:

"They have carriages for hire in the cities of Ceylon which are called hackeries, and are drawn by hump-backed bullocks or sacred oxen. They

A FASHIONABLE "HACKERY."

are almost entirely used by natives, and it is very rarely that you see a European riding in one of them. These animals can travel thirty miles a day easily, and can trot a mile or so as fast as an ordinary horse, but you generally see them going at a walk. A nice hackery has a roof over the top in a sort of dome shape, and there are cushions on which the passengers sit. Frequently you see whole families of five or six persons crowded into one of these carriages, and the bullocks trotting smartly along as though they enjoyed their work. Then they have carts for carrying baggage and similar work; in a case where a man in New York would send for a dray, he sends for a bullock-cart in Colombo or Kandy.

"Doctor Bronson says these animals are the sacred oxen of India and the East. Their native name is zebu, and their scientific one *Bos Indicus;* they are distinguished by a hump on the shoulders, and are much smaller than the oxen of America. In India they are worshipped, and they run around the temples and do pretty much as they please; they give a great deal of trouble to the dealers in grain, as they have no manners at all, and help themselves to anything they want. The natives consider it a sin to kill them, but their sacred character does not save them from doing a great deal of hard work.

"There is a story that at one time the sacred bulls of the temples of

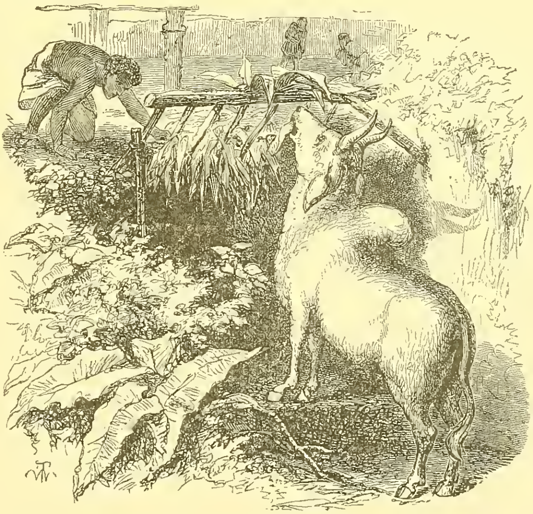
Benares, in India, extended their wanderings into the part of the city where the English live; there was a slaughter-house there where the foreigners were provided with beef, and the bulls discovered that some of their number disappeared mysteriously whenever they went near the slaughter-house. What became of them was never known; but suddenly the bulls gave up going there, or even into the English quarter, and sometimes, when a young bull ventured too far, one of the old ones on watch would bellow and call him back. I cannot say if this is really so, but give the story as I heard it.

"In many of the stables where these animals are kept, the stall is arranged so that when the occupant is feeding he must place his fore-feet considerably higher than his hind ones. The natives believe that this process causes the food to digest more readily than if all the feet of the ox are on a level."

When Frank had finished, it was Fred's turn to think of something that had been forgotten.

"It will never do," said he, "to leave our accounts of Ceylon without saying something about Adam's Bridge. As you have looked after the oxen, it is my duty to attend to the story of the bridge."

And so, after collecting from the books they had with them and from personal information, Fred wrote as follows:



EASTERN MODE OF FEEDING OXEN.

"Ceylon is fifty-three miles from India, but is almost connected with it by some islands and a reef that together form what is called Adam's Bridge. There are two islands, Ramisseram and Manaar, and the rest of the bridge is a reef of sand and sandstone. There are several openings, the largest being forty yards wide and ten feet deep; the Government has proposed to deepen it so as to allow the passage of large ships, and will probably do so one of these days. It is certain to cost a great deal of money, and that is why it has been postponed.

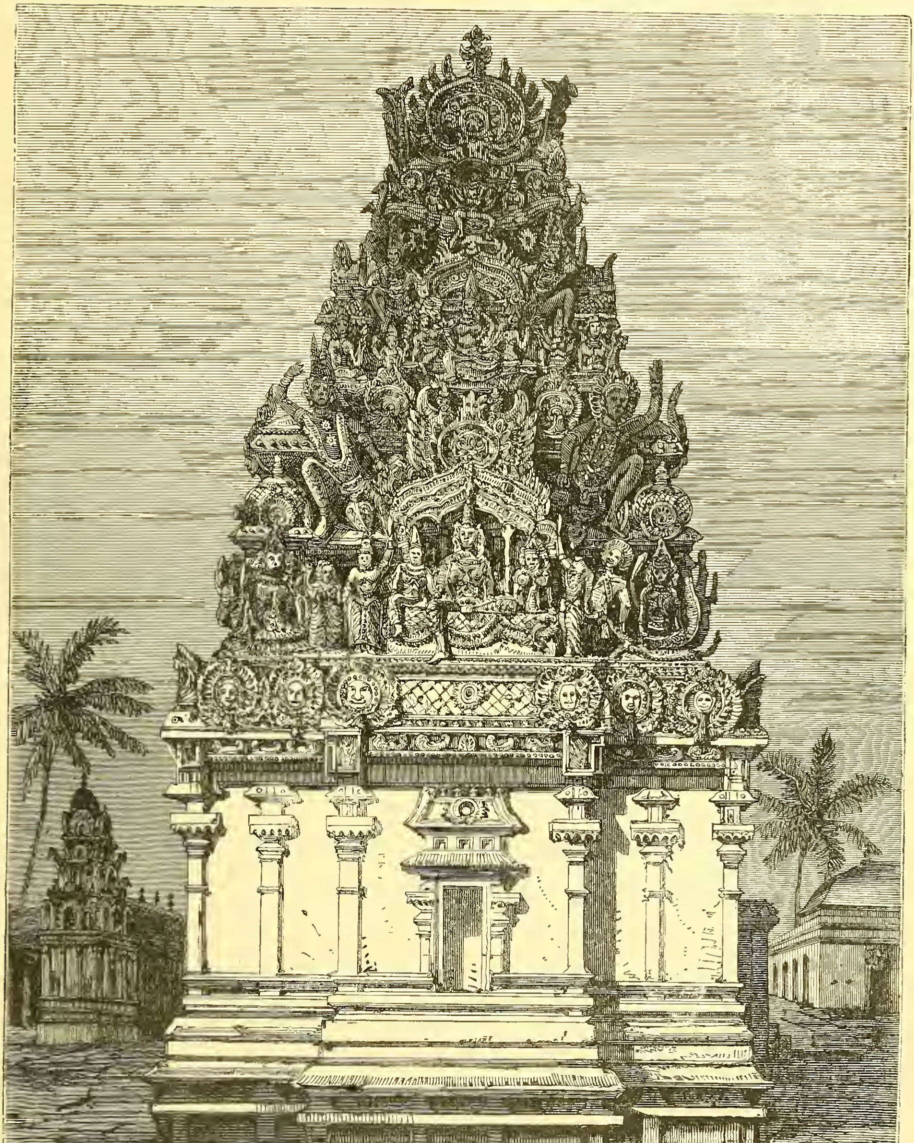
"The Hindoo legends say the bridge was made by one of their gods, assisted by an army of monkeys, who built it in a single night. The Bramins also claim it, and so do the Mohammedan Arabs, who gave it the name of Adam's Bridge, and say that Adam came from India and crossed on this bridge on his way to heaven, which he reached by jumping from the peak which bears his name. Some of the old accounts declare that Ceylon was once joined to the Continent, and several English engineers and geologists who have examined the formation of the land say this is quite probable.

"On the island of Ramisseram is a large Hindoo pagoda, where a great many pilgrims go at certain seasons of the year. There are also two very old tombs which the Mohammedans say belong to Cain and Abel. Some writers have thought the Garden of Eden was in Ceylon, and the Arabs say that when the children of Adam were scattered they went north toward India, and Cain and Abel were buried in this island."

The steamer sailed about sunset, and on the next morning she anchored in the harbor of Point de Galle. The day was passed in pleasant drives and walks around the place, and in closing up letters which would be taken a couple of days later by the weekly steamer that touches there on her way from the Far East to Europe. At sunset the steamer sailed again, and turned around the coast of Ceylon to head northward into the Bay of Bengal, and the next day she steamed along the coast with the shore nearly always in sight, her destination being Negapatam, on the coast of India.

There were about a dozen passengers in the cabin of the steamer; they included, besides our friends, two government officials with their wives, a member of the clergy of the Church of England, two planters going from Ceylon to Madras on business, and a little group of three strangers who could not be made out at a first glance. It soon became known that they were actors who had been playing in the cities of Ceylon, and were now on their way to India, where they hoped to make a profitable tour of the country.

On the second evening of the voyage the actors entertained the rest of the passengers with songs and recitations till it was time to put out the lights. The next morning Frank and Fred were in consultation with Doctor Bronson relative to a scheme they had concocted for contributing to the fund of amusement. The Doctor gave his assent, with the remark that they had been working and studying very diligently for some time, and a little recreation would be quite in order. "Besides," said he, "it is quite proper when at sea for all to contribute what they can conven-



PART OF A HINDOO PAGODA.

iently to the entertainment of their fellow-passengers; they are doubly rewarded for the effort, as they secure occupation for themselves, and thus pass the voyage agreeably, and at the same time add to the happiness of those who are on board with them."

For a couple of days very little was seen on deck of the two youths; the weather was of the temperature that kept the cabins comfortable, and enabled them to conduct the work on which they were so mysteriously engaged. The steamer stopped at Negapatam for a couple of hours, but the captain said there was nothing to be seen on shore, and, therefore, the labor was not interrupted. Then she steamed on to Pondicherry, and in the evening, when dinner was over, a notice was circulated to the effect that there would be a grand exhibition in the cabin, to which the captain and passengers were invited. "It will be," said the bill, "a panorama of the wonderful adventures of Robinson Crusoe, in prose and poetry, and also in pictures prepared at vast expense by two celebrated artists who have engaged passage on this ship regardless of the cost."

At the appointed time the passengers assembled, and the boys stepped before the curtain—a table-cover borrowed from the steward. Frank was the speaker of the occasion, while Fred had charge of the panorama: the latter consisted of a series of sketches in heavy crayon, with occasional touches from a box of water-colors to heighten the effect. As soon as quiet had been secured, Frank began:

"Ladies and Gentlemen,—It is hardly to be supposed there is any one in this vast audience who has not read the story of Robinson Crusoe, which we are about to illustrate; consequently, I will not tell you about him, especially as he never existed at all, and was never thought of till a Scotch sailor named Alexander Selkirk lived all alone for four years on an island in the Pacific Ocean. The adventures of this sailor gave Daniel Defoe the hint to write the story of Crusoe: it has been done in verse by some one else, and it is the poetical version which I shall now give you."

Frank paused an instant while Fred placed the first picture of the series on a temporary easel, composed of the back of a chair, which stood on the end of the cabin table. As soon as the picture was adjusted Frank recited the lines:

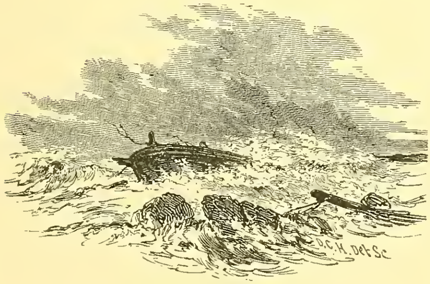
"'When I was a lad my fortune was bad,
My grandfather I did lose, oh;
I'll wager a fan you've heard of the man,
His name it was Robinson Crusoe.'

"Now," said Frank, "it is customary to sing this song to an accompaniment, but we are out of music to-night, and the audience must be contented with a recitation. If we gave it in song, we should expect you to join in the chorus, which would be in the following words:

"'Oh, poor Robinson Crusoe! Oh, poor Robinson Crusoe!
Sing tinky ting tang, sing tinky ting tang,
Oh, poor Robinson Crusoe!'"

ROBINSON CRUSOE.

By this time Fred had changed the scene—that is, he had removed the first picture and brought out the second. Frank then proceeded:



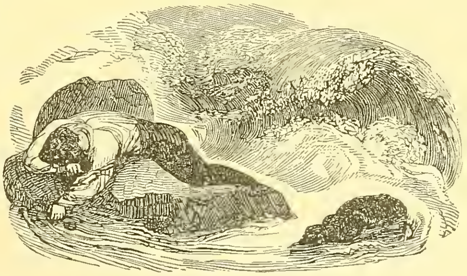
THE SHIPWRECK.

"'You've read in a book of a voyage he took,
How the raging whirlwinds blew, so
That the ship with a shock fell plump on a rock,
Near drowning poor Robinson Crusoe.'

"But we need have no fears of sharing the same fate," said Frank, "as we are in a steamer instead of a sailing-ship, and the raging whirlwinds would not be so likely to drive us on shore; and, besides, we are not in the season of typhoons, and everything promises us a prosperous voyage. Next picture."

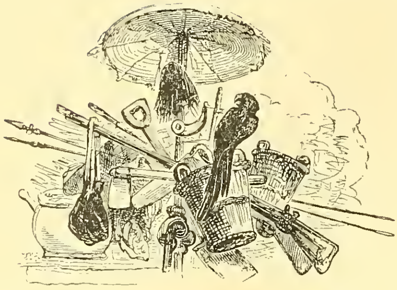
The appearance of this work of art was the signal for the recital of the third verse of the old song:

"'Poor soul! none but he escaped from the sea.
Ah, Fate! Fate! how could you do so?
At length he was thrown on an island unknown,
And saved was poor Robinson Crusoe.'"



LANDING OF ROBINSON CRUSOE.

The next picture was produced with great promptness, and the audi-


CRUSOE'S EQUIPMENT.

ence was left to pick out the various properties of the hero of the story, while Frank continued:

"'But he saved from on board a gun and a sword,
And another old matter or two, so
That by dint of his thrift he managed to shift
Pretty well for poor Robinson Crusoe.'

"A contemplation of this admirable painting," said Frank, "will show you how much may be accomplished by very small means with a man of determination, or what amounts to pretty much the same thing, a man that can't help himself. It is hardly necessary to say that the hero of our story was obliged to make the best of everything, and the next picture shows how he accomplished it.

"'He wanted something to eat, and couldn't get meat,
The cattle away from him flew, so
That but for his gun he'd been sorely undone,
And starved would poor Robinson Crusoe.'"

CRUSOE AND HIS GUN.

By this time Fred had become accustomed to handling the sketches, and the change was made with great alacrity. Frank rested a moment till the eyes of the audience had sufficiently scanned the picture presented for their inspection, and which revealed the interior of Crusoe's residence when that gentleman was at dinner, with his pets about him. "The parrot will speak for himself," said Frank, "and therefore we will proceed with the narrative. The rest of the pets have never been known to talk, except in fables, and therefore we may conclude that they had nothing to say, though there is no reason to doubt that they were always glad to see their master, and did their best to console him and to lighten the burden of his solitude. From the appearance of things we may regard the family as a happy one.

"'He happened to save from the merciless
wave
A poor parrot, believe me 'tis trne, so
That when he came home from his
wearisome roam,
She'd cry out 'Poor Robinson Cru-
soe!'"

CRUSOE AND HIS PETS.

"The explanation of the next picture may possibly be a tax on your credulity," said Frank; "but it is so stated in the song, and I cannot alter the words as they were originally written. The author doubtless availed himself of what is called 'the poet's license,' and followed Crusoe's example of using everything at his command.

CRUSOE'S CASTLE.

"'Then he got all the wood that ever he
could,
And stuck it together with glue, so
He made him a hut, in which he did
put
All the flocks of Robinson Cru-
soe.'"

At the termination of the second line Frank placed his fingers together to form an imaginary house-roof and indicate the way in which the castle of Robinson Crusoe was constructed. He explained to the audience that there had been much controversy concerning this matter, and it had happened in several instances that individuals who experienced no difficulty in believing Robinson Crusoe had really existed, and accepted his story as a true one, were thrown into a condition of doubt by the announcement that he employed glue in building his house. They argued that, in the first place, glue was difficult if not impossible for him to procure; and, secondly, it was a very poor material to use in cementing a roof. "But we will drop this discussion," said he, "and go on to the next scene. You will allow me to remark that the arrival of Friday made an end of the solitude of Robinson Crusoe, and gave him the human companionship he desired.

ARRIVAL OF FRIDAY.

'"While his man Friday kept the house
snug and tidy—
For be sure 'twas his business to do
so—
They lived friendly together, less like
servant than neighbor,
Lived Friday with Robinson Crusoe.

"And here is the portrait of the hero of the story," said Frank, as the next picture was brought out, "and you can judge of his personal character by the appearance of his features. His clothing is not such as would secure him ready admission to the best society of England and America; but, as he had no prying neighbors, and nobody to criticise his actions, it is not at all strange that he adopted this style of dress, particularly when there were no tailors and no ready-made clothing-stores on the island.

'"Then he wore a large cap, and
his clothes without nap,
And a beard as long as a Jew,
so
That when dressed in his coat he
resembled a goat
More than poor Robinson Cru-
soe.'

PORTRAIT OF THE HERO.

"And now comes the last," said Frank, as the closing picture of the series was produced. "And allow us to thank you, ladies and gentlemen, for your attention, and to express the hope that our efforts at whiling away part of the evening have not been altogether in vain. Alexander Selkirk disappeared from history when he left the island of Juan Fernandez and returned to England, and the story of Robinson Crusoe terminates in the same way. Our exhibition closes with the welcome arrival of the ship.

" 'At length within hail he saw a stout sail,
And he took to his little canoe, so
When he reached the ship they gave him a trip,
And to England brought Robinson Crusoe.' "

A SAIL! A SAIL!

The boys bowed and retired, the audience applauded, and then one of the actors recited Cowper's lines on Alexander Selkirk, beginning

"I am monarch of all I survey,
My right there is none to dispute."

Then another of the party sung "A Life on the Ocean Wave;" and just as he reached the concluding lines the whistle of the steamer sounded, the engines came to a sudden stop, and the meeting adjourned in a body to the deck to see what was the matter.

Lights gleamed on the shore and on ships at anchor near them; they saw at a glance that there was nothing alarming in the situation, and hardly needed the assurance of the captain, who came aft just then, that they were in front of Pondicherry.

CHAPTER XXIII.

SIGHTS IN PONDICHERRY.—THE FRENCH EAST INDIES.—VOYAGE TO MADRAS.

THE steamer lay quietly at anchor during the night, though she rolled somewhat from the motion of the waves that sweep almost constantly from the Bay of Bengal. The anchorage is only an open roadstead, and sometimes the surf beats on the sandy beach with such force that landing is next to impossible. There is a small river emptying into the sea at Pondicherry, but it is only accessible to native craft, which draw but little water, and to the smallest of foreign vessels.

In the morning all the passengers went on shore, with a warning from the captain to return before noon, as he should sail for Madras a few minutes after the sun had passed the meridian. There was hardly any wind blowing, and the surf was quite light on the beach: our three friends united with one of the other passengers in hiring a boat rowed by eight men, which was to take them ashore and back again to the steamer for the aggregate sum of four dollars. As soon as the four were seated in the stern of the craft the natives pulled vigorously at their oars, and shot the boat ahead with satisfactory velocity; they accompanied their rowing with a song which was sung by the two sides of rowers alternately, and then by the whole crew in chorus. The words, as near as the boys could make them out, were about as follows:

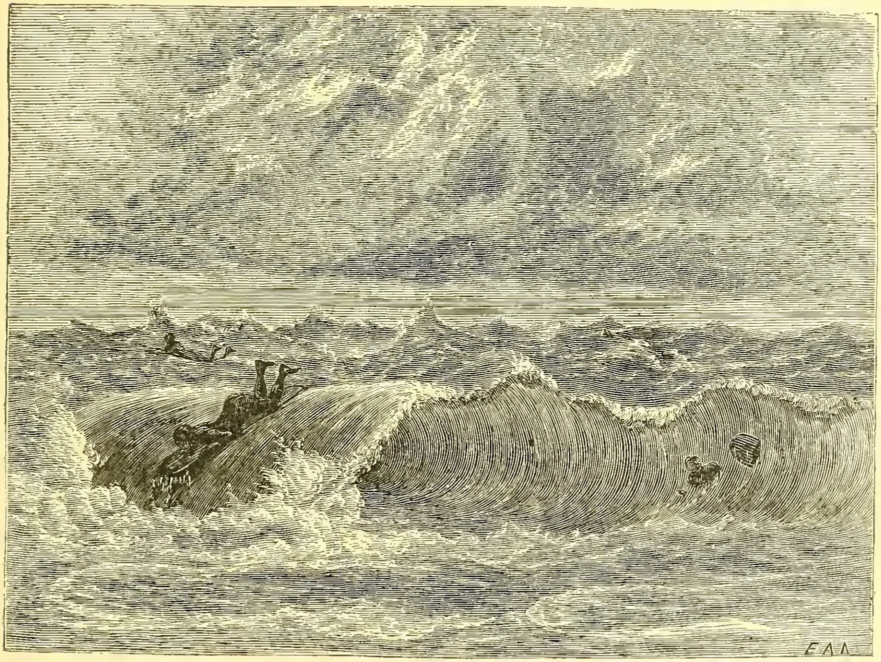
GOING ASHORE.

"Ahee! ma wala deery—
Ahee! ja nala meery—
Ahee! wala, nala, jan!"

As they reached the shore the boat rose on the crest of a wave, and

the instant she touched the sand the crew sprung out and seized her sides to run her up the beach before the next wave could arrive. Nobody received the least wetting, but the shore was so damp with the spray and surf that walking was not desirable. The boatmen stepped into position to receive the passengers on their backs, and our friends went ashore in a manner that was not altogether dignified, though decidedly comfortable.

When the north-east monsoon is blowing in its full force the surf is so heavy that no boat can live in it. The great rollers rush in one after the other in rapid succession, and with a front ten or twelve feet high: foreigners are cautious about venturing into it at such times, but the natives have no such fears, and many of them improve the opportunity for surf-bathing. With a short plank to keep them afloat, they spring into



NATIVES IN THE SURF.

the waves and allow themselves to be tossed here and there by the turbulent waters, and if they are thrown on the sand again and again they sustain no injury.

As they walked along the beach and into the city, Doctor Bronson told his young companions about Pondicherry and its history.

"Pondicherry," said he, "is the capital of the French possessions in India — *Les Indes Orientales Françaises.* It is a city of barely 50,000 inhabitants, and the French territory attached to it has about 200,000 inhabitants on an area of 112 square miles. There are two or three other

SCENE NEAR PONDICHERRY.

small settlements in India belonging to the French, but altogether they do not number 50,000 people in their limits. This is all that is left of the once wide possessions of the French in India. There was a time when the French were more powerful in the East than the English, and about the middle of the last century the latter began to fear that they would be driven out of Hindostan by their rivals. The French held more than half the country, and Madras and the principal cities in the English possession were besieged by the French and their native allies. The genius of one man turned the tide of war, and a succession of victories gave the English practical control of the whole country."

"That man was Lord Clive, was he not?" said one of the boys.

"Yes, Lord Clive. He organized a small force of English and native soldiers, and managed them so skilfully that one after another of the enemy's strong places fell into his hands. I advise you to read the history of his life whenever you have the opportunity, as it is exceedingly interesting, and will amply repay you for the perusal. I cannot, in the time at our disposal, give you even a brief outline of it, as it covers many events of importance, and includes a period of nearly twenty-five years.

He fought many battles, and was nearly always victorious: the most important was the battle of Plassey, which occurred on the 23d day of June, 1757."

"I've read about that battle," said Frank; "it was the one that decided the question of the English staying in India or being driven out of it."

"You are right," answered the Doctor; "if the battle of Plassey had gone the other way, the English power would have been completely broken, at least that is what the English historians themselves admit. Clive's army consisted of only 3000 men, and two-thirds of them were native soldiers, the rest being Englishmen. The native army opposed to him was 55,000 strong, consisting of 40,000 infantry, 15,000 cavalry, and having fifty large cannon, drawn by elephants and oxen. It is proper to say that the infantry was armed principally with pikes, swords, and bows and arrows, and the only weapons using gunpowder were some old-fashioned firelocks. The English had the best fire-arms of those times, and their artillery was far superior to that of the natives, though the number of pieces was smaller.

"The native nabob who commanded opened fire on Clive with his heavy guns, but they did very little harm. The English artillery replied with such deadly effect that the nabob ordered a retreat; Clive's army then advanced, and the enemy was thrown into confusion, and the retreat became a disorderly rout. All their artillery and camp equipage fell into the hands of the English, and the victory was complete."

One of the boys asked if many of the combatants were killed.

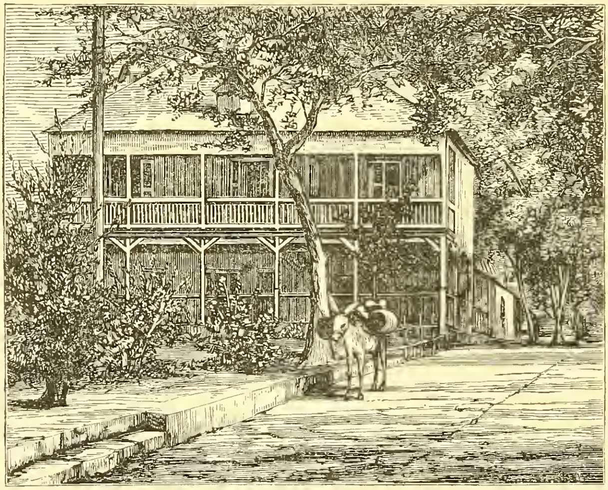
"No," was the reply; "the loss of life on both sides was very small, especially for such a complete defeat on one side, and a decisive victory on the other. About 500 of the native army were killed, and a great number made prisoners; the English lost twenty-two killed and fifty wounded—when I say English, I mean the entire army under Clive's command.

"Clive's victory at Plassey was followed by another at Patna over the troops of the Great Mogul, and in the year 1759 he defeated an army that was sent from the Dutch East Indies by the Governor of Batavia. Then he went to England, where he remained four years before returning to India to resume his command of the affairs of the colonies. On his final return to England his administration was questioned, but he vindicated himself in a parliamentary examination and died in 1774."

While this conversation was going on our friends were strolling through the streets of Pondicherry, and observing its peculiarities. Fred

said he expected to see a great fort and many soldiers, but the Doctor told him that when the place was given up by the English, in 1814, it was on the condition that no European soldiers should be kept there, and no fort should be built. The same was the case with the other French possessions in India, and consequently they could never be of any military importance, and would speedily fall into the hands of the English in case of war between the two countries.

They found that the European quarter was well laid out along the sea-shore, and separated from the native portion by a ditch, which was crossed by several bridges. The streets are broad, and shaded by magnifi-



HOUSE IN THE EUROPEAN QUARTER.

cent trees, and nearly every house has a fine garden attached to it. The squares are large, and there are many temples and pagodas that tell the traveller he is in India. Many of the natives speak French, and altogether they appear content with the foreigners that rule over them.

They met many natives, and the boys were impressed with the oddity of the appearance of many of them. The quantity of jewellery worn by the women surpassed what they had seen in Ceylon, or in any of the countries hitherto visited, and one of them remarked that people in India were willing to suffer much inconvenience for the sake of fashion. As he said so he pointed out a woman who had a ring at least two inches in diameter thrust through one side of her nose in such a way that it hung down over her mouth, and reached to the level of the base of her chin.

It certainly appeared as though it would be a great hinderance to eating and drinking, but the woman seemed proud of her adornment, and probably would have been unwilling to part with it.

AN INDIAN WOMAN.

It was further observed that she had her ears pierced with several holes, and each hole contained a ring. The whole front of the ear was filled with rings. As if this were not jewellery enough, she had a double string of beads on her neck, a great necklace of silver coins that hung to her waist, and a couple of ornaments on each arm. Bells tinkled as she walked, and, on glancing at her ankles, Frank and Fred observed that they were beautified with heavy rings of silver.

The fondness for jewellery was not confined to the women by any means, as the boys had occasion to remark before they had finished their discussion of the wearer of the many rings. They saw several men whose ears were pierced in the same way as those of the women, but they were content with filling the holes with delicate pearls. A few of the wealthiest of the native men had diamonds in their ears, but the lower classes could not afford such a luxury.

AN INDIAN MAN.

In front of the principal hotel of the city there was a group of natives around a performer who appeared to be doing something interesting. Our friends stopped to see what the attraction was, and found that a snake-charmer

was exhibiting his power over a *cobra-di-capello.* As the boys had not yet seen a snake-charmer in India, the Doctor motioned to the man to bring his serpent near the veranda of the hotel, where the strangers

A SERPENT-CHARMER.

took their seats. Accordingly the performer brought forward a small basket, about the size and shape of an ordinary cheese, and then squatted in front of it.

With an instrument somewhat resembling a flute he began playing a dull, monotonous air; in a few moments there was a movement under the bit of cloth that lay in the basket, and presently the head of a cobra appeared. Slowly the snake elevated himself till nearly half his length was in the air, and as long as the music continued he swayed his head

backward and forward, and apparently tried to keep time to the tune. When the musician laid aside his flute the snake subsided, and crawled under the blanket as though he wished to go to sleep again. The performance was over, and the man advanced with a low bow and extended his hand for his reward. The Doctor gave him a sixpence, another spectator added a similar amount, and the snake-charmer went away satisfied.

"He was only an ordinary performer," said the Doctor; "I can show you some that far excel him before we have been long in India. Their adroitness will astonish you, and some of their tricks will appear like the work of a magician; I will not detract from their interest by telling you what they will do, but would rather have you wait and see for yourselves. The time for our return to the ship is approaching, and we had better move on."

Suiting the action to the word the Doctor rose, and was followed by the youths. In a little while they were passing through the surf and out toward the ship, which they reached without mishap of any kind. A little past noon the anchor was lifted, and the steamer was under way for Madras.

It is about ninety miles from Pondicherry to Madras, and as the steamer was not a fast one, it was well into the night before she arrived at the latter port. The captain announced that she would remain there until evening of the second day after their arrival, and thus they would have two full days on shore. They could do as they liked about coming off to sleep on board or staying at a hotel. As there was a good chance of a wetting in the surf while going back and forth, it did not take a long consultation for them to decide to remain on shore. Rising early in the morning they ate a light breakfast, and then took their satchels with such toilet-articles as they desired during their single night on land. Plenty of boats were at the ship's side, and a bargain was made to the effect that for two rupees each they were to be carried to the shore and back again, with a rupee additional to the crew by way of perquisite.

The boat they engaged was of the variety known as the *masullah;* it was made of long thin planks, and the sides were very high in order to keep out the surf, or as much of it as possible. The planks extended from one end of the boat to the other, and were tied together with coir ropes running through small holes bored in the edges. The seams were calked with the fibres of the cocoa-nut-tree, and daubed with pitch; but in spite of this precaution the craft was a leaky one, and a man was occupied more than half the time in baling her out. The bottom was flat, and covered with a quantity of small twigs to keep the feet of the pas-

sengers from getting wet; the crew wore neither shoes nor stockings, and consequently it made little difference to them whether their feet were wet or dry.

The captain of the steamer told them that the masullah-boat was a remarkable construction, and though it appeared frail, it was in reality

MASULLAH-BOATS IN THE SURF AT MADRAS.

very strong. "It goes on the waves instead of through them," said he, "and is therefore just what is wanted for the surf. The sides are so flexible that they can be brought close together, and then sprung out again without apparent injury, as I have seen them do repeatedly. They bump against the sides of our ship for hours without any more effect on them than on a rubber ball, and they will carry any sort of cargo that can be lowered into them."

Away they went on their trip to shore, the crew singing the same kind of song they had heard at Pondicherry, and rowing with curious-looking oars or paddles that had quite a resemblance to enormous tea-spoons. As they neared the land, the waves rolling in from the sea were not a pleasant sight, and the situation was not improved when the men stopped rowing just outside the line of surf and demanded double pay before going in. This is a favorite trick with the Madras boatmen, and it frequently succeeds where the passengers are timorous: this time it did not work to their satisfaction, as the Doctor peremptorily ordered them

to row back to the steamer if they were unwilling to keep to their bargain. Finding themselves foiled, they pulled away at the oars, keeping the head of the boat straight on for the shore. She rose on one wave, and then on the next and the next: there are generally three lines of waves pursuing one another, and the third, counting from the outside, is the one that breaks into surf.

As they struck the sand with the surf the boatmen sprung out and ran the boat out of reach of the next wave. A little water was taken into the stern of the boat in the shape of spray, just as they rose on the crest of the last wave; Frank was slightly sprinkled with it, but the Doctor and Fred escaped without the least wetting.

From the sand they were carried by the men to dry ground, and as soon as they were fairly on their feet a great clamor was raised by the crew for extra pay. The Doctor told them it would be due when they returned to the ship and not before, and without more words the trio walked off with their satchels, to which they had clung.

The masullah-boat is not the only kind of craft that passes through the surf at Madras. Just as they landed, Frank and Fred saw a sort of raft with two men on it boldly launching into the waves, and it was followed by another with only one man on it. The Doctor explained that these rafts or catamarans were made of three logs that turned up at the ends, and were lashed side by side, and they were chiefly used for taking letters and light parcels from ship to shore, or from shore to ship. The men that manage them have high hats with pockets in the lining, and everything they carry is put there for safety.

A CATAMARAN.

At the side of the street, just above the beach, stood a garry, or carriage, which the Doctor engaged to take them to the principal hotel. The crowd of boatmen and beach attendants followed, and pressed so closely that it needed several strokes of the umbrellas of our friends to

keep them even a yard away, and, as they entered the carriage, a dozen hands were thrust into the windows with demands for backsheesh. Some of these fellows followed the carriage for nearly half a mile, shouting their complaints, and making a vain effort to be bought off. Doctor Bronson said they were the most persistent beggars he had ever seen, with the possible exception of the Arabs at the great pyramids in Egypt, and it was quite possible that the latter might learn a lesson from the beach-combers of Madras.

HINDOO NATIVE OF MADRAS.

With the crowd shaken off at last, our friends had a chance to look around them and obtain their first impression of Madras.

The city stands on a plain close to the sea, and extends seven or eight miles along the coast. The view, as one approaches it from the water, is quite picturesque; between the beach and the first line of buildings there is a wide street, in which we see a good deal of activity in the early and late hours of the day, but very little when the sun is at or near the meridian. The densest part of the city is in the neighborhood of the long pier, and for nearly a mile up and down the shore the line of buildings is almost unbroken. This part of Madras is called the Black Town, and nearly all the business of the place is conducted here; in the rest of the city the buildings are much more scattered than in the Black Town, and, altogether, Madras is said to cover an area of about thirty square miles.

Frank wondered how many inhabitants there were in Madras, and what was the proportion between the natives and foreigners.

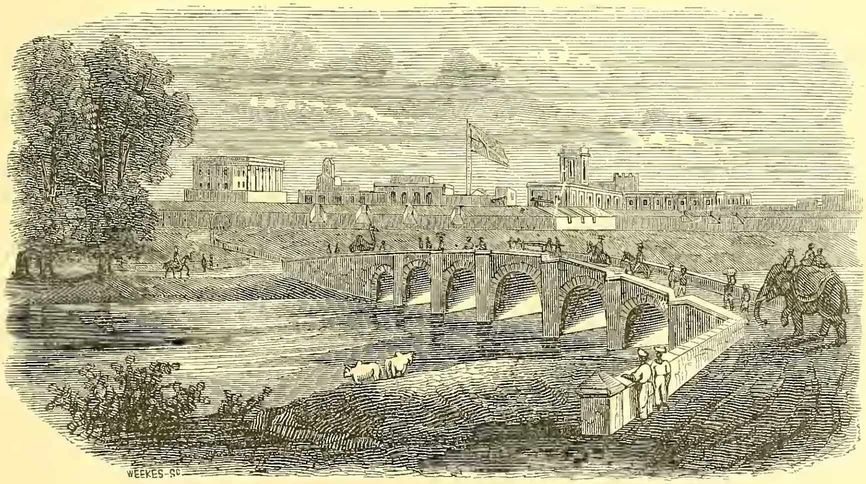
"There are about 400,000 people living here," Doctor Bronson answered, "and the majority of them are Hindoos. There are less than 2000 people of English birth here, exclusive of the garrison, and there may be four or five hundred German, French, Greek, and other European nationalities. It is an odd spectacle to see so small a population governing a large one, but you must bear in mind that this is the case in nearly all the cities of the East where Europeans have obtained control."

CHAPTER XXIV.

SIGHTS AND SCENES IN MADRAS.—THE INDIAN FAMINE.

WHAT Frank and Fred saw and did during their visit to Madras is best told in their own words.

"After running the gauntlet of the crowd of natives on the beach, and getting a carriage, we drove to the principal hotel of the city. We found it a series of houses disconnected from each other, and the rooms that they gave us were in the building most distant of all from the dining-room. Peddlers and jugglers followed us to the door, and we had



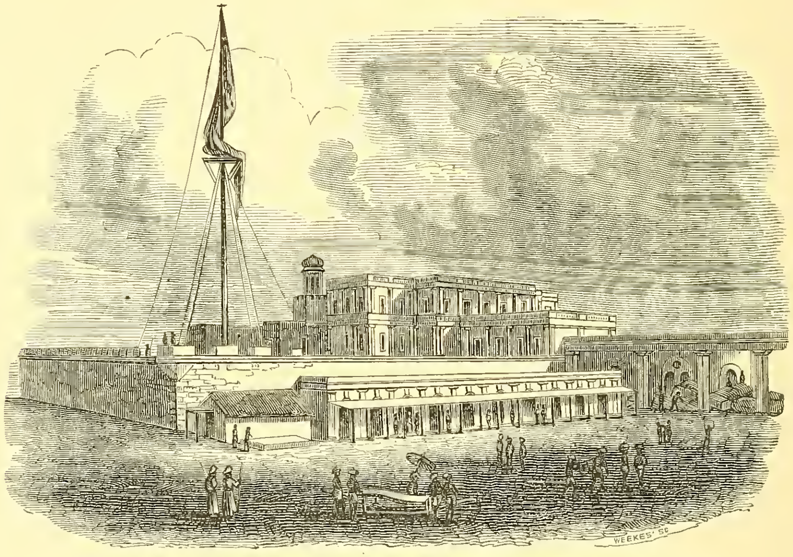
WESTERN ENTRANCE OF FORT GEORGE.

hard work to keep them out of our rooms till we called a servant, and told him to drive them away.

"We rode about Madras, and the first thing we went to see was the fort, which we reached by crossing a bridge at its western entrance. It covers a great deal of ground, and was a strong enough place before the improvements of the last twenty years in artillery. Its full name is Fort

St. George, and it is designed to resist attack both by land and sea; on the side facing the sea it has a front of 1500 feet, and on the land side it has a double line of bomb-proof defences built of stone and covered with earth.

"We were surprised at the quantity of things in the fort. There were small guns of all the kinds you ever heard of, and some you never did; there were cannon captured in the various wars with the native princes and kings, cannon from China and other parts of the Far East, swords, pistols, muskets, firelocks, flags, wagons, saddles, spears, and a thousand other things that the auctioneers would say are too numerous to mention. The fort is large enough for a garrison of 1000 men, and



GOVERNOR'S RESIDENCE, FORT GEORGE.

in time of war it could hold many more. All the European inhabitants of Madras could be taken inside in case of trouble, but they would be crowded rather closely when their numbers were added to those of the garrison.

"The Governor of the Presidency of Madras lives here, and his house is inside the fort. It is a great building two stories high, and has wide verandas, where there is plenty of air without the necessity of sitting in the sunlight. We saw elephants in the enclosure of the fort, some with soldiers on their backs, and others with great burdens of freight that they were employed in bringing inside. As we crossed the bridge we met an elephant, and a little farther on a camel, while down by the bank of the

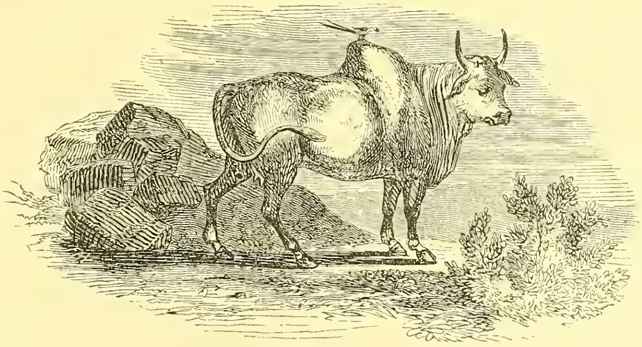
canal a couple of hump-backed oxen were looking into the water, and possibly admiring themselves. We have seen quite a lot of these oxen and cows to-day, and wherever they were grazing or standing idle under the trees the crows were perched on their backs, and seemed to be on good terms with the beasts. The crows here are as impudent as those of Ceylon, and we are told that we shall find them so all the way through India.

"We went into the English church, which is a pretty building, but does not contain many objects of interest. The thing that attracted our attention most was a statue of Bishop Heber, who was formerly Bishop of Madras, and died at one of the interior cities of this presidency. He is best known to Americans as the author of the famous missionary hymn beginning,

"'From Greenland's icy mountains,
From India's coral strand.'

"The story is that one Sunday he was to deliver a missionary sermon, and could not find an appropriate hymn to be sung after he had finished preaching. Half an hour before it was time to go to service he took his pen and wrote the hymn, which he handed to the leader of the choir as he entered the church. It was afterward printed, as we now see it, with the alteration of only three or four words.

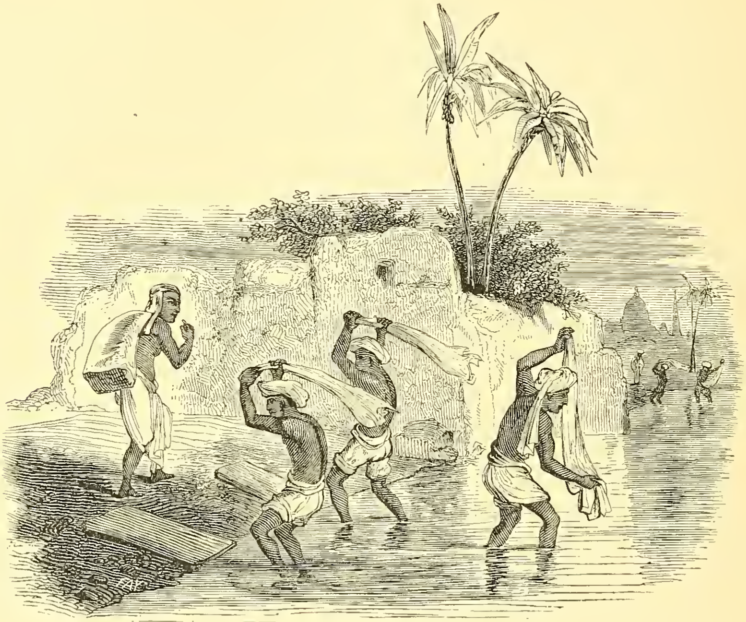
"The statue of the bishop represents him standing and looking kindly on a native convert who sits at his feet. An odd thing about the



HUMP-BACKED COW.

church is the array of punkas, or large swinging fans, over the desks and pews; they are operated by pagan servants, who stand outside during service, and keep their employers cool while the latter are at their devotions.

"In one part of our ride we passed the place where the *dhobies*, or washermen, perform their work. As we saw them, we understood how it is our clothes get so sadly knocked to pieces in this part of the world. They make your shirts up into a sort of club, and then pound with it on



MADRAS DHOBIES, OR WASHERMEN.

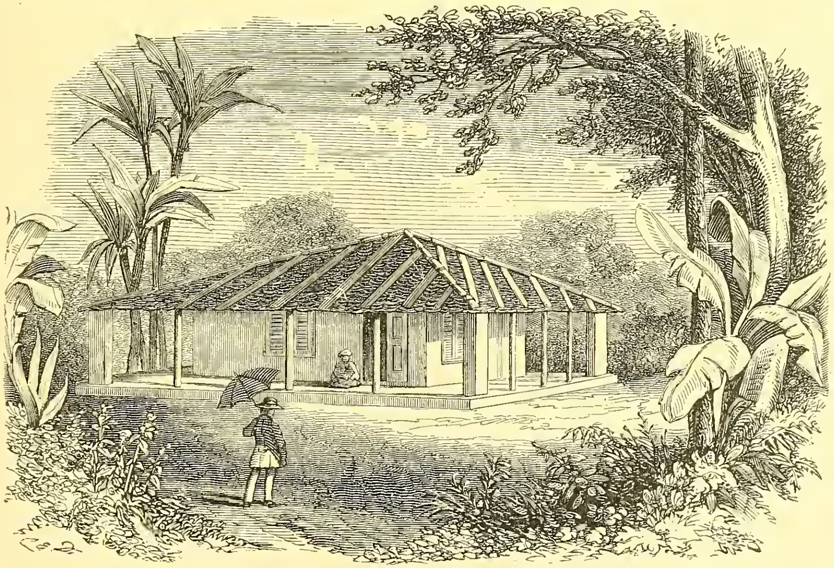
a rock till the linen is clean. No boiling and no rubbing; nothing but pounding and rinsing, and sometimes they help things along by folding some gravel in with the linen. We have had lots of handkerchiefs sent home with holes in the centre where they had been torn through by the gravel inside, and many of our socks have been burst open at the toes and ruined before being washed a third time. Half a dozen visits to the dhoby generally make the end of a shirt or other under-garment, and sometimes they will manage to finish it in three or four.

"The necessity for frequent change of linen, and the destructive manner of washing, makes the single item of under-linen a very costly one. Shirts should be made of the strongest material consistent with comfort, and not of the fine linen which most Americans are fond of. If you know anybody who is about starting on a journey around the world by way of India, tell him to get a dozen of the strongest white

shirts he can before starting—or, if he does not bring them, he should have them made up in Yokohama or Hong-Kong.

"Madras covers an enormous extent of ground, for the reason that all the houses stand in large yards, or 'compounds,' as they call them here. Everybody has a whole army of servants to run his house, and these servants must be cared for; and they generally manage to have their families lodged somewhere on the premises, though the master is not supposed to know it. We met a gentleman to-day who is a bachelor, and lives with another bachelor, and he said that together they had fifteen servants. Another gentleman, with his wife and two children, said he had twenty-six servants in all, and at times he employed as many as thirty. We would write about this matter in detail, but Doctor Bronson suggests that we had best wait till we have seen more of East Indian life, and had a practical experience of existence in a land of castes and curious customs; so we'll put it off for a while.

"A house where people live in India is called a bungalow, and a warehouse is named a godown. Bungalow is a Hindostanee word, and godown is a corruption of the Malay *gadong*, which means a warehouse.



A MADRAS BUNGALOW.

All through India these words are very generally used by Europeans, to the exclusion of the English names for the same things. Properly speak-

ing, a bungalow is a house only one story high, and, owing to the great exertion required for climbing stairs in these hot countries, you rarely see a building of more than one story except in the cities.

"We visited two or three bungalows in the resident portion of Madras, and had an opportunity of looking through them. They had wide verandas, and the windows were covered with lattices and venetian blinds to keep out the heat, while the floor was of brick or cement, for the sake of the superior coolness of those articles. Coir matting was laid over the floor to protect the bare feet of the occupants, and there were several punkas in each room to keep the air in circulation.

"We were quite interested in looking at the punkas, and learning how they work them. There is a certain class of servants, known as *pankhâ-wallahs* (punka-fellows), who work these fans, and are hired for that purpose at about three dollars a month, they boarding themselves. They stand outside and work the punka by means of a cord passing through a hole in the wall, so that while you are enjoying the strictest privacy, you may have the fan in motion above you. You have a punka over your bed, another over your bath-tub, another at your dressing-bureau, another over your dining-table, and another above your desk. Your body-servant calls out to your punkhâ-wallah, and has him shift from one cord to another as you move about your room, or go from one room to another. You have the punka in motion all day and all night somewhere, and for this purpose you must have two men to relieve each other. When you go to bed a basket of old shoes is placed where you can reach them, and you are fanned to sleep. If you wake perspiring in the night, and find the punka motionless, you may know that the pankhâ-wallah is taking a nap; you throw a shoe in his direction and thus awaken him, and immediately he resumes his duty.

"The side where the man pulls is the one that gets the air most vigorously circulated, for the reason that it is brought forward with a certain force, and goes back by its own weight. The people here call the one where the man pulls the Bombay side of the punka, and the other the Bengal side. We asked why it was, and they told us that when the south-west monsoon blows it comes with its full force from the sea upon the shores of the Bombay presidency; crossing the country and going over the mountains to Bengal, it expends its strength and becomes very weak. Therefore you see how the Bombay and Bengal sides of the punka get their names.

"They say that a good many inventions have been tried for substituting machinery for man power in working the punka, but none of

A PANKHÂ-WALLAH.

them have succeeded, for the reason that the peculiar pull or impulse that is needed to put the air in motion can only be given by the human arm. Machinery works with regularity and a steady pull, and the real need of the punka is a jerk or extra force while the cord is being drawn, followed by a complete relaxation of the cord to allow the fan to go back and get ready to be drawn forward again.

"We went through the bazaars, but did not find them very interesting. The shops are small, and the best goods are hidden from sight; at all events we were not able to see anything of great value, and we had neither time nor inclination to compel the merchants to display their wares when we had very little thought of buying anything. We did not find the streets particularly clean in the native quarter, and a short stay among them was quite sufficient. There was some very pretty brassware in a few of the shops, and they showed us a lot of handsome filigree work in silver, which was said to have been made at Trichinopoly. The latter place is famous for its silver work, and the result is that a good deal of what is made in other places is sold for the genuine article.

"There are many natives of Madras engaged in business with Englishmen, and they have a considerable amount of the import and export trade in their hands; and nearly every European house has one or more natives attached to it, somewhat after the manner of the compradores in China and Japan, as they save the manager a great deal of trouble in dealing with the inhabitants of the country. These native merchants are said to be very shrewd in their operations, and anybody who supposes they are verdant would find out his mistake as soon as he began to bargain with them.

"The natives of Madras are said to be of darker complexions and smaller figures than the inhabitants of the country farther north; some of them are almost as dark as negroes, but their features do not resemble those of the African in any way. They are very picturesque in their gay-colored robes and large turbans, and as you see them with their vast head-coverings you wonder how they can endure so much weight on their heads in this hot country. The turban, as it is worn here, contains many yards of muslin, and it is not an easy matter to wrap it so that it will stay in place. It is doubtful if a European could endure a turban which prevents the circulation of air around the brain; undoubtedly the best head-covering for the foreigner is the *sola-topee*, or sun-hat, which every European wears, and could not be persuaded to get along without; but you never see one of them on the head of a native unless he has adopted the entire European dress.

NATIVE MERCHANT OF MADRAS.

"We have seen a good many Eurasians, or people descended from European parents on one side and Asiatic on the other. Their position is an unhappy one, as they will not associate with the natives, and, on the other hand, they are not allowed to associate with the Europeans. Despising the one, and despised by the other, they have no recognized social standing, and no one speaks well of them.

"The saddest thing we have seen is a camp of the victims of the famine. Every little while in America we read of famines in India, but none of us know much about them, as the country is far away, and we are not bound to it by any ties of kindred. The people are so poor and so heavily taxed that it takes all they can earn to support them in times of plenty; when the crops fail they have nothing laid by to live upon, and must starve. This year they have had famines in two parts of India, one in the Madras presidency and one in Bengal, that of Madras being the worst. It is said that a million of people have died of starvation in Madras, and half that number in Bengal. Think of a number as great as all the inhabitants of New York city perishing of hunger, and then judge what a calamity it must be!

"A great many persons are inclined to blame the British authorities for the famines in India, and it is undoubtedly the fact that the high taxation has much to do with the poverty of the people. On the other hand, the Government has done a great deal in the way of constructing irrigation works that will keep the land fertile in times of drought, and it has built roads so that provisions may be carried from the places where they are abundant to where they are most needed. The failure of the rains is the cause of the famines; the south-west monsoon (which brings the rain) is looked for with great anxiety all over India, and is considered of so much importance that its arrival is telegraphed to the newspapers of Europe and America. When you read in the telegraphic column that the monsoon has burst in the provinces of Central India, you may know that all fears of famine for the year are over, unless, as sometimes happens, the rains are so great in quantity that they flood the fields, and prevent the farmers from performing their work.

"Notwithstanding the poverty of the people, we are told that the land-tax in India is increased every few years, and in many districts it is absolutely impossible for the people to pay it. Doctor Bronson says that thoughtful persons, who have studied the relations between England and India, say the latter country is fast going to bankruptcy in consequence of the oppressions that are steadily increasing. The taxes have grown so great that they are now more than one-eighth of all that the country pro-

duces, and in some parts of India they are one-sixth! Think of what would happen in America if one-sixth of all the wheat, corn, cotton, and other products, and a sixth of all that is manufactured was paid over for taxes. We should be in a state of poverty quite equal to these people in a short time.

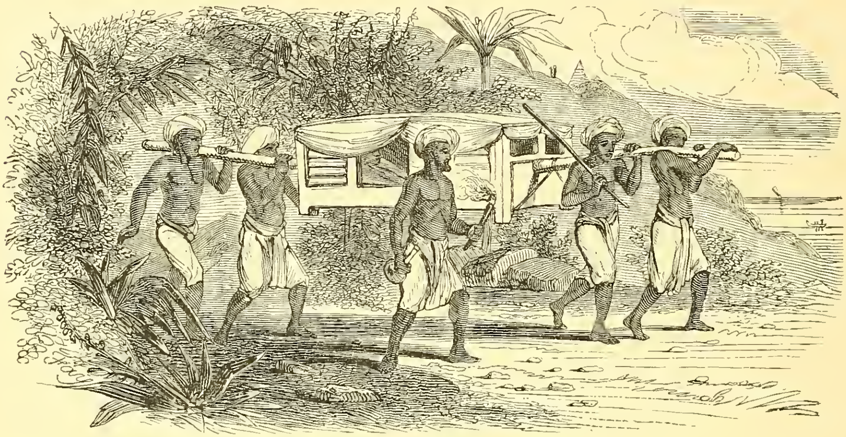
"In the camp that we visited we saw some poor wretches who were just able to crawl, and some that had been brought in on stretchers, because they were too weak to stand. There was hardly any flesh on their bones, their cheeks were sunken and hollow, and their eyes seemed to be half forced from their sockets. They lay on the ground—some under the tents, and some in the open air—and many of them were so far gone that they had not strength to feed themselves. They did not appear to complain, and one of the officers in charge of the camp told us that they were exceedingly patient, and rarely caused any trouble. Poor creatures! they were too weak to do so, however much they might have had the inclination.

"These people had been brought to Madras from the famine districts, and we were told that similar camps were scattered along the line of the railway wherever the crops had failed. It had been found easier to feed them in camps than to distribute food to them in their villages, as there was a great deal of loss by theft, and in other ways, in making the distribution. The natives seem to have very little regard for each other, and, if half that has been told us is true, it is an eternal disgrace to this people. Large sums of money were raised in England for the sufferers by the famine, and the British Government made a heavy contribution for the same purpose. With this money rice was bought in Rangoon and shipped to Madras, and from there it was sent by rail to the famine districts. The boatmen at Madras demanded exorbitant prices for landing it, and two or three times they struck for extra pay because they knew that the Government was anxious to get the rice forward as rapidly as it could. They tore open the sacks and stole a large share of what they took on shore, and when they had done so they did not take the trouble to sew the sacks again, but let the rice spill on the ground. The carters who took it to the railway-station continued the theft, and in some instances fully ten or fifteen per cent. of the rice was lost between the ship and the railway-station, and there were cases where the loss was more than thirty per cent.

"Well, that's enough about this unpleasant subject. We'll turn to something else.

"For the first time in our lives we have seen people riding in palan-

quins, or palkees, as they call them here. The vehicle is a box about seven feet long and four wide, and it has lattice sides to allow the air to circulate. The bottom is covered with a neat mat, and the passenger who is to ride in it must lie down and place his head on a pillow with



A MADRAS PALKEE.

which the palkee is provided, while he puts his hat on a shelf above his feet. We have not yet tried a palkee ride, and when we do we'll be able to tell more about it. In a general way it looks like a very uncomfortable thing to ride in, and you can see very little from the windows on account of your position. There is a pole at each end, which is braced by iron rods, so that it can sustain the weight of the box and a person inside. Four men are required to carry it; and at night there are one or more torch-bearers, whose duty it is to light the way and frighten off any wild animals that come near. These fellows are not very brave; and at the first indication of danger they run away, and are followed by the bearers, who drop the box on the ground and leave the inmate to take care of himself.

"The people of Madras have tried hard to make a harbor, so as to avoid the terrible surf that breaks on the coast, but all their efforts have not amounted to much. They began to make a harbor, some years ago, by running a couple of breakwaters out from the shore; but somehow, as fast as they built them, the sea made a protest by 'silting,' or filling up the enclosed space with sand. Next they built an iron pier running out beyond the breakers: it stands on piles, and has a lot of cranes along its sides for hoisting goods out of the large flat-boats, or lighters, that are

used here. But the pier cost a great deal of money, and they have been obliged to make so high a toll for using it that it is almost abandoned when the weather is at all suitable for passing through the surf.

"We came back to the steamer by this pier, and paid a toll of about ten cents each for using it. Our boat was at the foot of some long stairs, and it bobbed up and down about three or four feet each time, and very rapidly. We had to watch our chances and jump when it rose. Two of us got in all right, but the third did not jump soon enough by a couple of seconds, and when he struck the bottom of the boat he went sprawling on the brushwood and in the water that splashed up through it; but we escaped without a wetting, and that is more than everybody does.

"The captain of the steamer says, when the sea is so rough that they cannot pass the surf, and the boat dances too much at the foot of the stairs, people are landed by means of the cranes that they use for hoisting goods. The boat goes in under the crane, and a bucket is lowered down and allowed to rest on the boat's bottom; then the passenger gets into the tub, sits down and clings to the handles, and when all is ready the men on the dock hoist away. It is rather trying to a nervous person; but at any rate it is better than being half or wholly drowned in the surf."

CHAPTER XXV.

FROM MADRAS TO CALCUTTA.—THE TEMPLE AND CAR OF JUGGERNAUT.

FROM Madras the steamer continued her course up the coast, and touched at two or three ports, where the boys went on shore and wandered for a few hours about the towns and villages; but they did not find much to interest them after what they had already seen. As they returned from one of these excursions the captain of the ship informed them that he had an interesting piece of intelligence to convey, as he was about to stop at a port which was not on the regular programme.

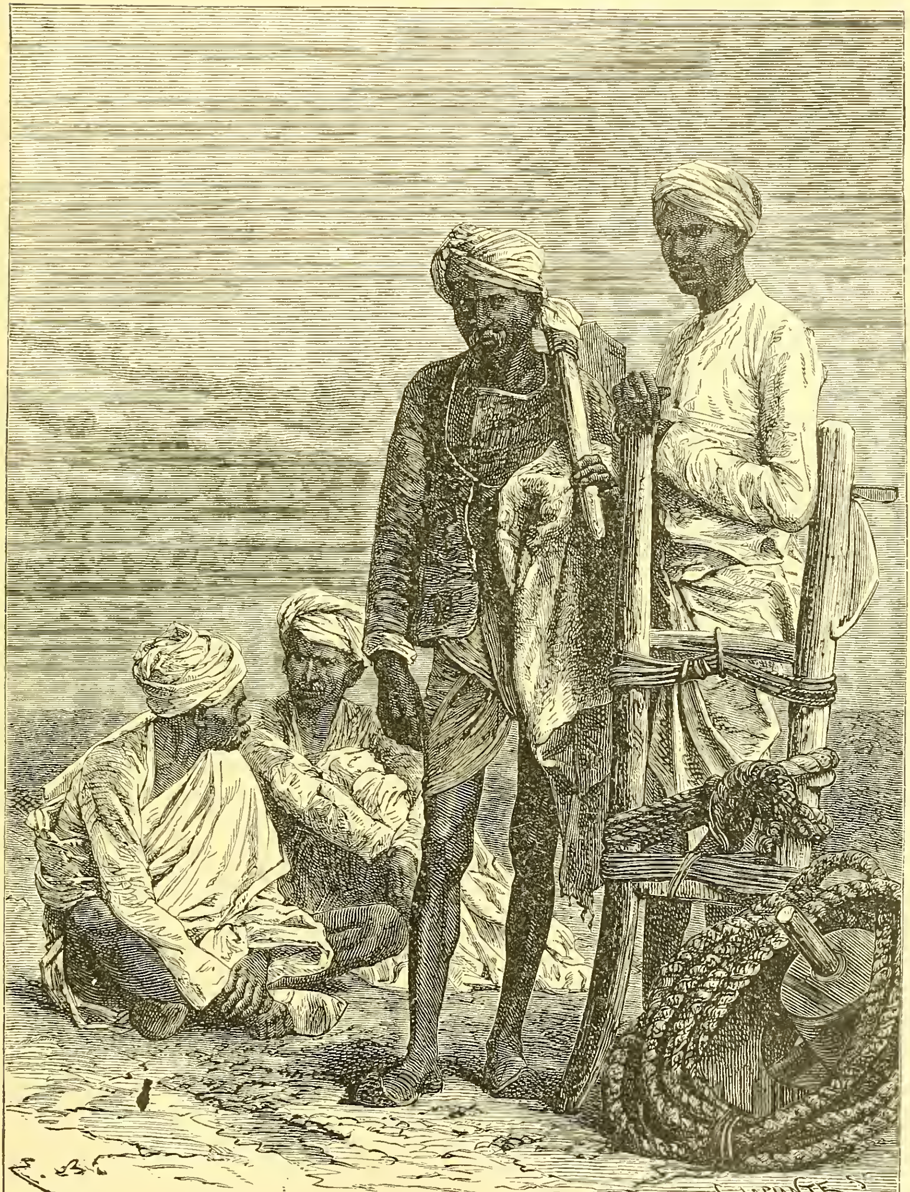
Frank asked what the place was, and on learning its name he immediately went to Doctor Bronson to tell the good news.

"The captain says we are to stop at Pooree," the youth exclaimed; "and Pooree is another name for Juggernaut."

"And we'll see the famous idol of Juggernaut," said Fred, "that crushes thousands of people under its wheels every year."

The Doctor smiled, and asked if they wanted to see the great procession and witness the crushing. Thereupon Frank and Fred turned pale, and began to wish that the steamer would not stop there, as they did not desire to see any suffering that it was in their power to prevent. The deaths of these hundreds of fanatics who throw themselves under the wheels of the car of Juggernaut would be a horrible spectacle, and they wanted to be as far from the scene as possible.

"I may as well tell you now as later," said Doctor Bronson, "that the story of the car of Juggernaut and its terrible slaughter is almost entirely a fiction. The car exists, and it makes its annual procession from the temple to the country-house of the god, where it is dragged by thousands of worshippers. Here are the facts of the case as given by Mr. W. W. Hunter, who lived a long time in the district of Orissa, and was director-general of the statistical survey of India. He published a book on Orissa a few years ago, and gave particular attention to the history of the car of Juggernaut. Here is what he says of the slaughter of the pilgrims:



INHABITANTS OF POOREE.

"'In a closely packed, eager throng of a hundred thousand men and women, many of them unaccustomed to exposure or hard labor, and all of them tugging and straining to the utmost under the blazing tropical sun, deaths must occasionally occur. There have, doubtless, been instances of pilgrims throwing themselves under the wheels in a frenzy of religious excitement; but such instances have always been rare, and are now unknown. At one time several unhappy people were killed or injured every year, but they were almost invariably cases of accidental trampling. The few suicides that did occur were, for the most part, cases of diseased and miserable persons, who took this means to put themselves out of pain. The official returns put this beyond doubt. Indeed, nothing could be more opposed to the spirit of Vishnu worship than self-immolation.'"

"In that case," said one of the boys, "we shall be very glad to visit Pooree, and see the car of Juggernaut. The romance is gone from it, but it will be an interesting sight on account of the story that has so long been connected with it."

"One of your countrymen," said the captain of the steamer, who had been listening to the conversation—"one of your countrymen was a passenger with me last year on the voyage we are now making. When I told him we were not to visit Pooree he was greatly disappointed, as he wanted to see the famous car, and also hoped that he might witness the traditional slaughter of the pilgrims. When I told him what you have just learned he was still more angry, and said that all the poetry of the East was gone. He had hoped to see a widow burnt by the side of her dead husband, and to witness the Juggernaut procession with its old-time attractions; the loss of these interesting spectacles was too much for him, and he heartily wished he had never left home."

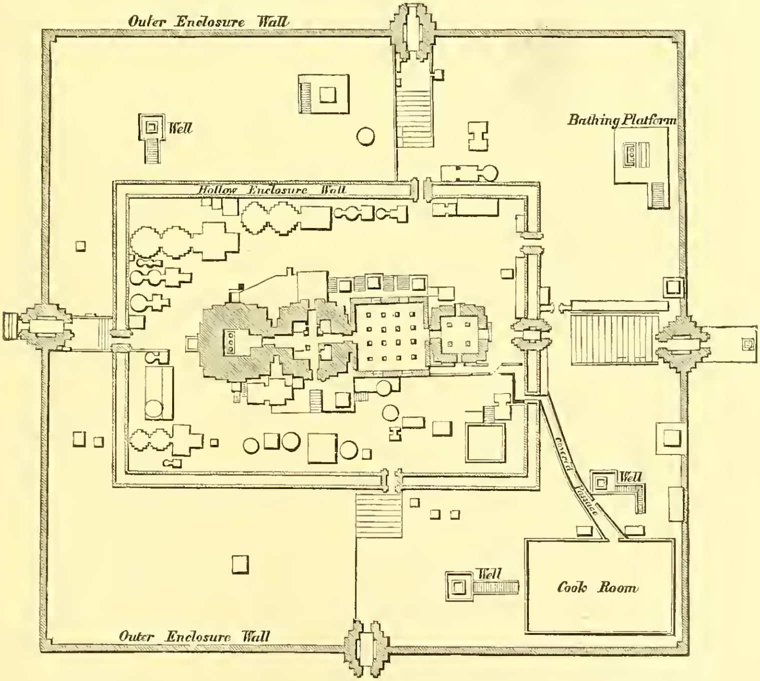
"We won't be so cruel in our tastes as all that," one of the boys answered, and then the conversation on this topic came to an end.

In due time they reached the port in question, and anchored in front of the town. Doctor Bronson and the youths engaged a boat, and were taken ashore; and with the consent of the captain they were accompanied by one of the servants of the steamer, who spoke English and could serve them as guide. They found that the town was not a large one, its population being estimated at about 30,000; but its streets were crowded with people, and they were not surprised to learn that it was annually visited by more than a million pilgrims.

Their guide took them to the principal street, which is very wide, and bordered on each side by religious establishments called *maths*, where

pilgrims are lodged, and where certain ceremonies of purification are performed by them before they enter the temple. These maths are low buildings of a single story, with wide verandas in front, and a plentiful supply of shade-trees; they are built of stone, and their occupants are not required to pay any kind of rent to the Government on account of their religious character. At the end of this street is the great temple, and the boys quickened their steps as they approached it, so anxious were they to look at its interior.

They found the temple enclosed in an area of about ten acres in extent, and learned from their guide that each side of the enclosure measured 650 feet, and the lofty wall before them extended all the way around. On the eastern side, where they entered, there was a broad staircase of stone steps leading up to a platform twenty feet in height; this platform was about 450 feet square, and enclosed by a wall somewhat

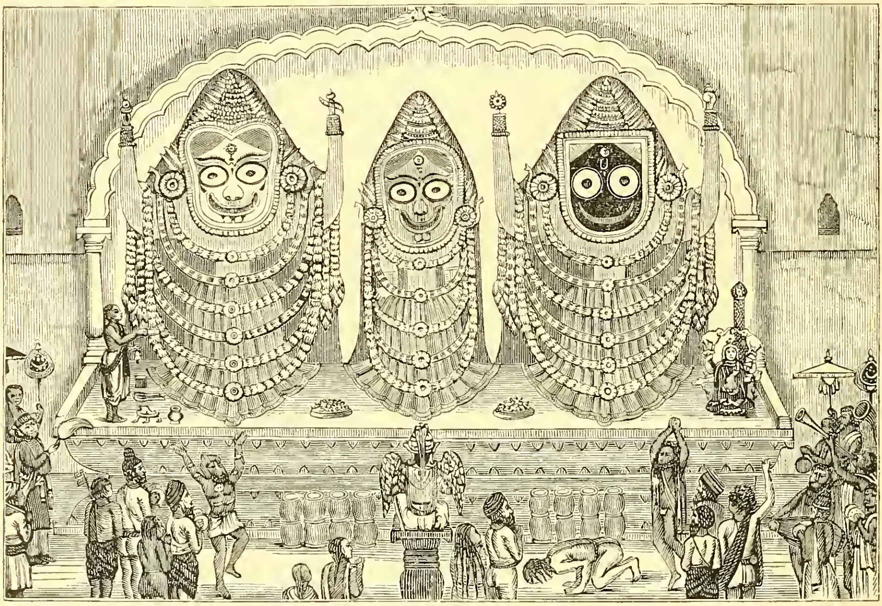


PLAN OF THE TEMPLE OF JUGGERNAUT.

lower than the outer one, and it appeared to be pretty well filled with small temples, and pagodas that had been built with comparatively little regard to order or regularity.

The great pagoda rises from the centre of this platform or terrace; it has a base about thirty feet square, and its top is 200 feet above the foundation. It tapers gradually, and is rounded at the summit; the sides are cut full of niches for holding small statues, and at a distance the effect is quite pretty. Close by the entrance is a stone pillar nearly fifty feet high, hewn from a single block, and said to be a remarkable piece of work.

The enclosure and the temples were full of pilgrims who had come to make their offerings; some of them scowled at the strangers, but offered



JAGANATH AND HIS BROTHER AND SISTER.

no violence, though a few crowded around and made remarks in a menacing tone till they were silenced by the guide. The interior of the temple is divided into four rooms or halls that open into each other: one is the hall of offerings, where gifts are made by the pilgrims, to be afterward appropriated by the priests; the second is the hall of the musicians and bayaderes; the third is the hall of audience, where the pilgrims gaze on the god, and the fourth and last is in the centre of the building, and occupied by the god Juggernaut, or Jaganath, with his brother on one side and his sister on the other.

Contrary to their expectation, our friends found that the statue of the

god was only a log rudely fashioned into the shape of a human body without arms, while the figures on each side of him had rude representations of hands uplifted. The priests explain this deficiency by saying that Jaganath, or "the lord of the world," has no need of hands, as he can perform everything without their aid. Sometimes on festival occasions they fasten golden hands to his shoulders, and adorn him with jewels: his eyes are supposed to be of fine diamonds of enormous value; but according to tradition one of them was stolen by a sailor, who managed to conceal himself in the temple one night, and since then the diamonds have been removed and bits of glass put in their place.

The guide told them that the service of the temple consisted of a daily offering of fruit and flowers, together with articles of food, such as rice, butter, milk, salt, vegetables, cocoa-nuts, and the like. Four times a day the temple is closed for the god to take his meals, and it is hardly necessary to say that the food which has been collected is eaten by the priests and other attendants of the place. It has been estimated that the value of the offerings averages nearly twenty-five dollars daily, and all of it goes to the support of the priests. In addition to these offerings of food there are donations of money and jewels from wealthy pilgrims, which are estimated by Mr. Hunter to amount to more than $300,000 a year.

The pilgrims come from all parts of India to worship at this shrine: many of them are women, and they are collected by missionaries who are sent out from Pooree to the number of about six thousand every year. They go all over the country, and each has his field of labor assigned to him. He shows to the people the great advantages of a journey to the sacred shrine, and as soon as he has collected a band of pilgrims he starts with them for the holy spot. Most of the pilgrims are poor, and they go on foot and beg their subsistence as they proceed. Now and then a wealthy merchant concludes to make the pilgrimage, and he does it with carts and wagons and a whole train of servants, and it sometimes happens that a prince comes with dozens of elephants, and everything in grand style.

It is estimated that ninety-five per cent. of the pilgrims are poor, and perform the journey on foot; and some of the pious devotees prostrate themselves at every third, fifth, or tenth step. Many of them die on the road, and after their arrival at Pooree the mortality is frightful. This is partly owing to the fact that a hundred thousand people are often crowded into a city that has a resident population of less than a third that number, and no effort is made to keep it clean. The great festival occurs in the rainy season, so that the attendance is largest at the very time

when it should be least. The drainage is the worst that could be imagined, and the stench that arises is horrible in the extreme. Sometimes

A HINDOO DEVOTEE.

there are hundreds of deaths in a day, but the vacancies created by the losses are quickly made up by fresh arrivals.

Another cause of serious illness and frequent death is a religious observance connected with the worship of the idol. It is the custom to carry cooked rice into the presence of the god, and it immediately becomes so sanctified by his presence that it destroys all distinctions of caste. All classes can eat it together, and the richest may sit down by the side of the most humble in the presence of this holy food. Not a grain of it must be thrown away, and thus it happens that it is often kept for several days before it is eaten. When fresh it does no harm, but after a day or two it putrefies, and is a sure producer of disease.

There is hardly a year when cholera does not appear among the pilgrims to Juggernaut, in consequence of the bad food they eat. The true Asiatic cholera had its origin here, and it is noticeable that every recurrence of the epidemic has had its beginning in the festivals connected with some of the Hindoo forms of worship.

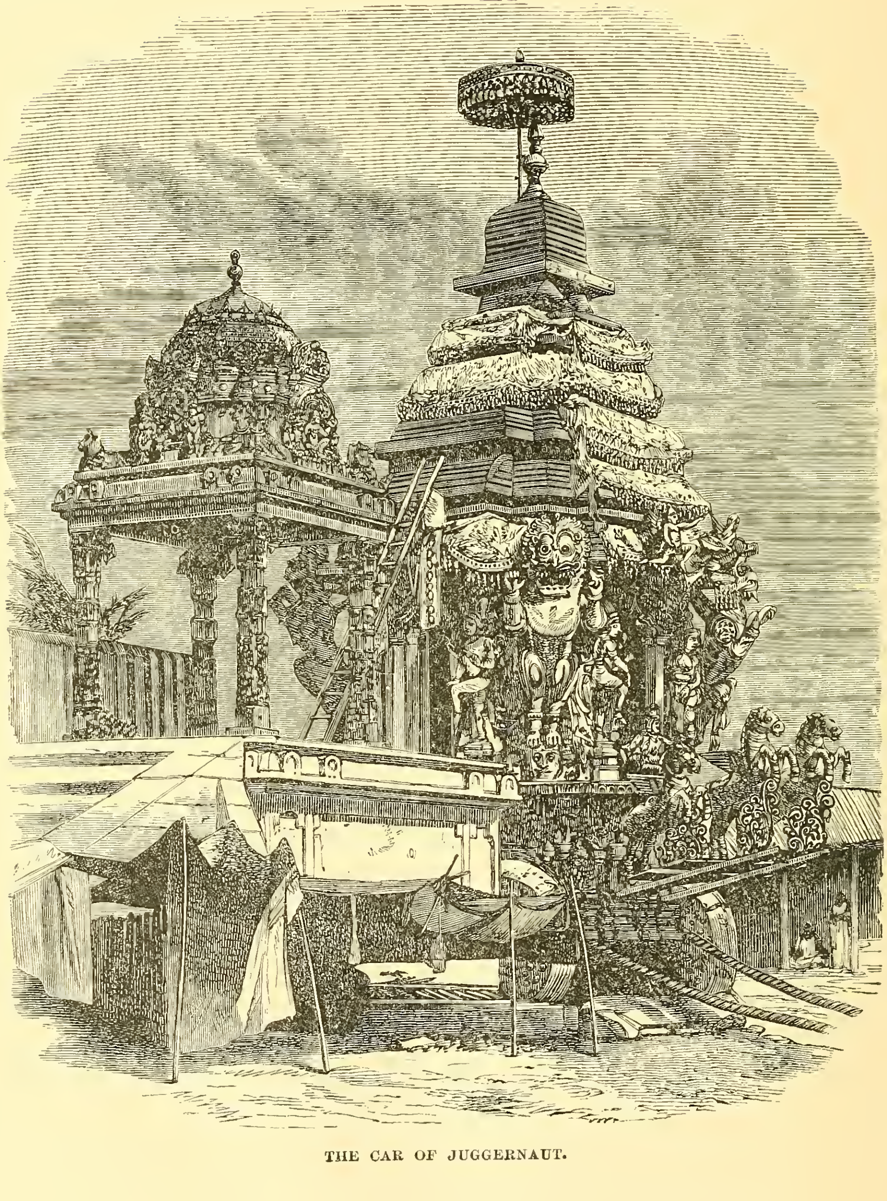
The great epidemic of cholera (in 1817) began at Juggernaut, and was carried across India and thence up the Persian Gulf to Bussorah, where 18,000 persons died in eighteen days; it then moved on through the valleys of the Euphrates and Tigris Rivers to the shores of the Mediterranean, where it stopped. In 1826 there was another epidemic, arising in the same locality; it was the first to reach Europe and America, and arrived in the latter country in the spring of 1832, in a ship that brought some Irish emigrants to Quebec. It ascended the St. Lawrence River and the Great Lakes, and entered the United States at Detroit, whence it spread over the country and caused many thousands of deaths.

When our friends entered the temple the boys asked for the famous car on which the idol takes his annual ride. The guide led the way to a small shrine in the enclosure surrounding the temple where the wonderful carriage was standing. It was a great structure, about forty feet high and nearly as many square on each of its four sides; its wheels were eight or ten feet in diameter, and were hewn from single blocks of wood like the trucks on a country baby-cart. The shrine where the god is placed during his annual ride was decorated with some hideous carving, and just above the wheels there were representations of horses in the act of running.

A little distance away were two smaller cars, and the guide explained that each of the idols has a carriage of his own, that of Juggernaut being the largest and most important. A short time was devoted to the inspection of these vehicles, and then the party left the temple and returned to the shore, as it was near the hour for the steamer to leave; besides, it was considered judicious to get away from the pestilential atmosphere of the temple, as none of the strangers cared to invite the development of a case of cholera on his own account.

On the way back to the ship the guide told the boys about the great car festival that takes place in July of each year.

For weeks before the time fixed for the event the pilgrims arrive at the rate of thousands daily, and the city is crowded to its utmost capacity; there are rarely less than 100,000 people there on the occasion of the great festival, and sometimes they are ten or twelve thousand above that figure. When the day comes for the ceremony, all the space in and around the temple is densely crowded, and the priests find it difficult to move about in the performance of their duties. The idols are taken from their pedestals and placed in their cars, and as this is done a signal is made, and the whole multitude falls to the ground. In a few moments they rise and seize the great ropes to drag the cars forward, amid



THE CAR OF JUGGERNAUT.

the beating of hundreds of drums and the clashing of many gongs and cymbals.

The huge car of Juggernaut moves onward amid the shouts of the vast assemblage, the sound of music in frightful discordance, and the songs of the priests who stand on the front of the car or clinging to its sides. The progress is slow, and sometimes the journey of little more than a mile requires two or three days for its accomplishment. The end of the journey is the summer-house of the god, and when the car has been brought there it is abandoned by the pilgrims, whose pious duty has been finished. It is taken back to the temple by the inhabitants of Pooree and the surrounding country, and the idols are restored to their pedestals.

By the time the story was ended the boat was at the side of the steamer, and our friends were speedily on board. In a little while the captain had completed his business at Pooree, and the vessel steamed away in the direction of Calcutta. Pooree was the last port visited on the voyage from Colombo to Calcutta.

When the boys went on deck in the morning the captain said they were in sight of land; Frank and Fred looked around, but could see nothing save the waters extending in every direction, with a few sails in sight here and there. The captain observed their perplexity, and smiled as he said,

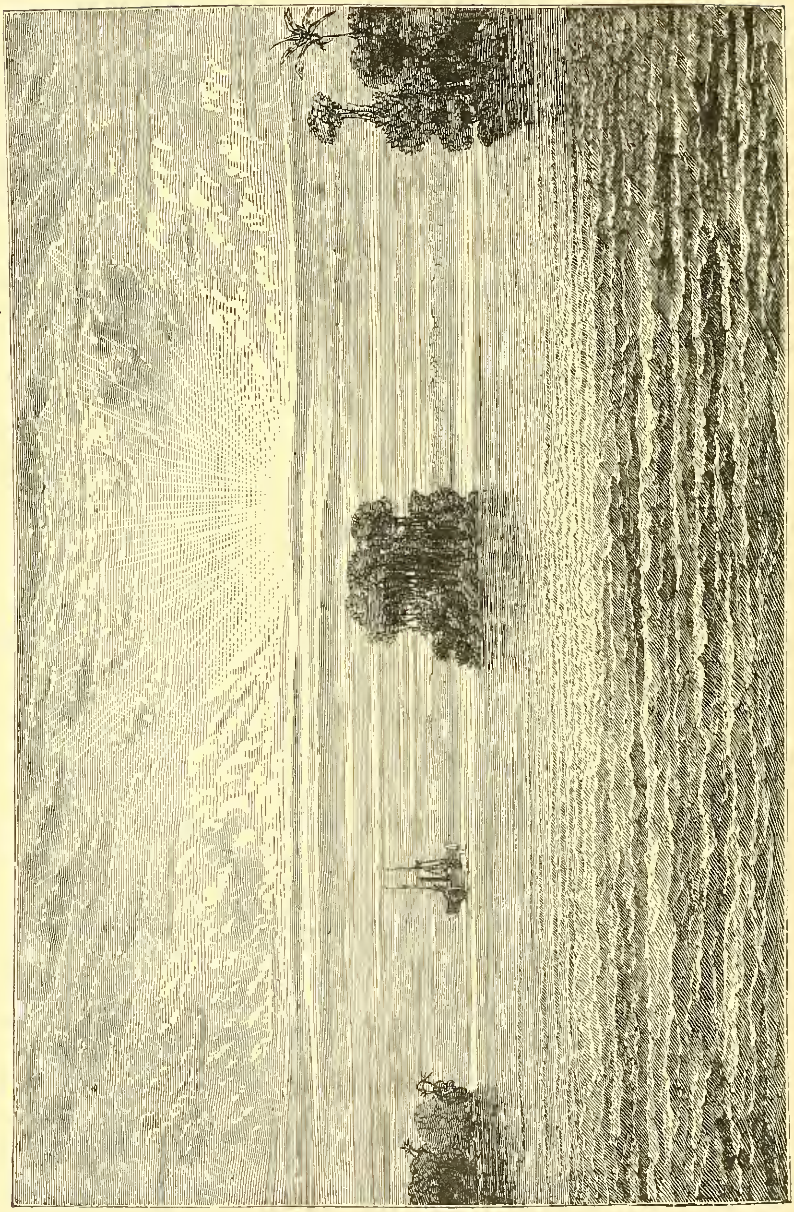
"We are in sight of the Sand Heads; you have heard of the Sand Heads at the mouth of the Hoogly River, have you not?"

"Certainly," Frank answered; "but I cannot see them."

"Well," continued the captain, "they are under water where you see that brig anchored a couple of miles ahead of us. We consider that land is in sight when we see the pilot-brig, though we cannot see any land at all. The Sand Heads are banks of sand beneath the water, and the brig marks their locality. At the brig the steamer goes into the charge of the pilot, and my authority over her course ceases."

As they neared the brig a small boat came off; the ladder was lowered from the side of the steamer, and the pilot climbed to the deck, followed by his servant and baggage; then the small boat dropped astern, and the steamer continued on her way. Soon a buoy was in sight, and then another and another, in a winding line, and the boys learned that the channel through the treacherous sands was thus indicated long before land could be seen.

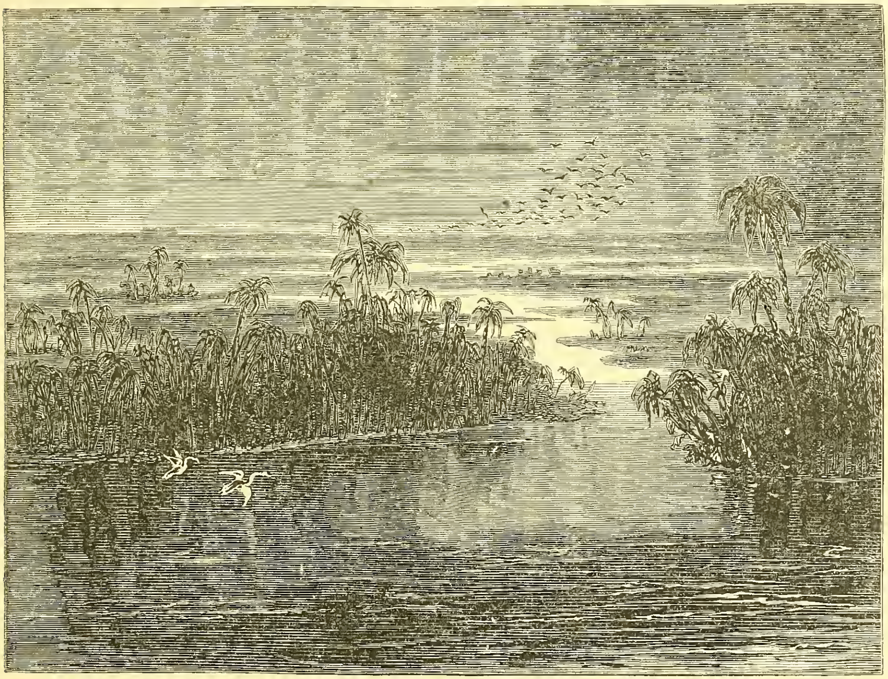
"You see what an excellent means of defence we have in case of war," said the captain of the steamer. "We have only to take up the



A TROPICAL MORNING AT SEA.

buoys, and no hostile fleet could find its way inside, even if it had the aid of all the pilots in the service. No one can follow the channel without these buoys, no matter how often he may have been over the route. The maintenance of the harbor of Calcutta and its approaches is a matter of great expense, and has been a puzzle to the best engineers. Even after we enter the river we have many difficulties to encounter, and the pilot needs a pair of sharp eyes, and must keep them well open."

By-and-by a dark line appeared on the horizon, which the captain pronounced the island of Saugur; and then little tufts and patches of green



BAYOU IN SAUGUR ISLAND.

were seen here and there close to the shore, or out on the sand-bars that just rose to the surface. The morning was bright, with the exception of a few light clouds that were tipped with crimson from the rays of the tropical sun, and the sea was undisturbed save by a light ripple which was not enough to give the least rocking to the steamer. The dark line developed into a low forest, and after a time another forest was revealed on the other side of the ship, but there were no high headlands, and nothing to indicate that there were any mountains within hundreds of miles.

Saugur is a densely-wooded island many miles in extent, rising only a few feet out of the water, and seamed and traversed by numerous bayous and creeks. Here come the wood-cutters who supply Calcutta with fuel, and occasionally — much against their will — furnish a good meal for the tigers for which Saugur is famous. The jungle is dense, and the tigers find in it a secure cover; they lurk in the vicinity of the paths, and spring on their victims without the least warning. Formerly they were numerous, but their ranks have been thinned by enterprising and intrepid hunters, and by the tidal wave that swept over Saugur a few years ago, and laid the whole island under water for several hours. All the low land at the mouth of the Hoogly was inundated, and the wave reached to Calcutta, where it caused enormous damage to the shipping. Thousands of lives were lost, and the terrible visitation fills a melancholy chapter in the history of the City of Palaces. On the island of Saugur nearly all the persons who were there at the time, engaged in wood-cutting or for other purposes, were drowned; only those escaped who were near their boats or were able to get into the tops of trees.

Two natives who were among the saved said that they climbed into a tree out of reach of the water, and were followed by a tiger. The animal did not molest them, and for several hours they were within a few feet of him, and were not even saluted with a growl. The beast was so terrified at the sight of the waters, and his own danger, that he forgot all his natural antipathy to man, but, on the contrary, seemed to court their presence. Since the inundation it is observed that there are but few tigers on Saugur Island, and the inference is that many of them were killed by drowning.

The steamer followed the tortuous channel among the sand-banks, and finally came to the entrance of the Hoogly, one of the mouths of the Ganges. The Ganges, like the other great rivers of the globe, has brought down vast quantities of earth and deposited it at its mouth, and the amount is so great as to divide the river into several channels. Doctor Bronson explained to the boys this peculiarity of great rivers, and told them that the earth which thus accumulates is called a delta.

"I understand," said Fred; "I read about that at school. Every great river has its delta, and some of them are very large. The delta of the Mississippi is more than 300 miles long, and is extending every year. In every ten gallons of water brought down by the river there is one gallon of solid matter, which is deposited in the Gulf of Mexico and must fill it up in time."

"Yes," echoed Frank; "and I've read about it, too. If you look on

DIAMOND HARBOR.

SCENE ON THE HOOGLY.

the map of any country where there is a large river, you will see that it is pushed way out into the sea, and is generally divided into several mouths. This is the case with the Mississippi, the Nile, the Ganges, the Indus, the Mekong, and lots of others. The Amazon has a broad delta, as its mouth is 180 miles wide, and contains an immense island that was formed by the earth brought down from the interior ages and ages ago. What is that?"

He pointed directly ahead of the steamer to a spot on the bank where a flag appeared to be waving from a mast.

"I presume it is Diamond Harbor," the Doctor responded, "as it is about time for us to reach it."

The speck grew larger and larger, and finally resolved itself into a building like a fortress on a diminutive scale. A few palm-trees waved around it, and, with their glasses, our friends could see that there was an earthwork surrounding the building to protect it from possible assault. From a mast that resembled the cross-trees of a ship two or three flags were waving, and it did not take the boys long to realize that they were nearing a telegraph-station.

"You are quite right," said the Doctor, "that is Diamond Harbor, the station whence ships are announced, and before we have passed it the name of our steamer will be flashed to Calcutta. See, they are sending up our flag now."

The boys turned and saw that the steamer's flag had been sent to the top of the mast, and was waving in the gentle breeze. They felt that they were once more at the end of a sea-voyage, and Fred remarked that the next thing to arriving at Calcutta was to know that the coming of the ship had been announced there.

They passed the station without stopping, and steamed onward up the Hoogly. Everywhere the banks were the same, and the scenery soon grew monotonous. Forests and groups of palm-trees, and wide spaces devoted to the cultivation of rice or other tropical product, succeeded one another as bend after bend of the river was followed; cattle grazing on the banks were seen at frequent intervals, and occasionally the low walls of a village presented themselves. At last a white object was seen in the distance, and the captain announced that they were practically in sight of Calcutta.

CHAPTER XXVI.

SIGHTS AND SCENES IN CALCUTTA.

SEVERAL miles below Calcutta the river widens into Garden Reach, an expanse of water that is comparatively straight, and where both banks of the stream are so richly clad in tropical verdure as to suggest the name of garden to the early-comers. The first buildings of importance are the structures composing the palace of the King of Oude; they

RIVER SCENE BELOW CALCUTTA.

are on the east bank of the river, and the buildings and the walls that surround them are of a dazzling whiteness, which the captain of the

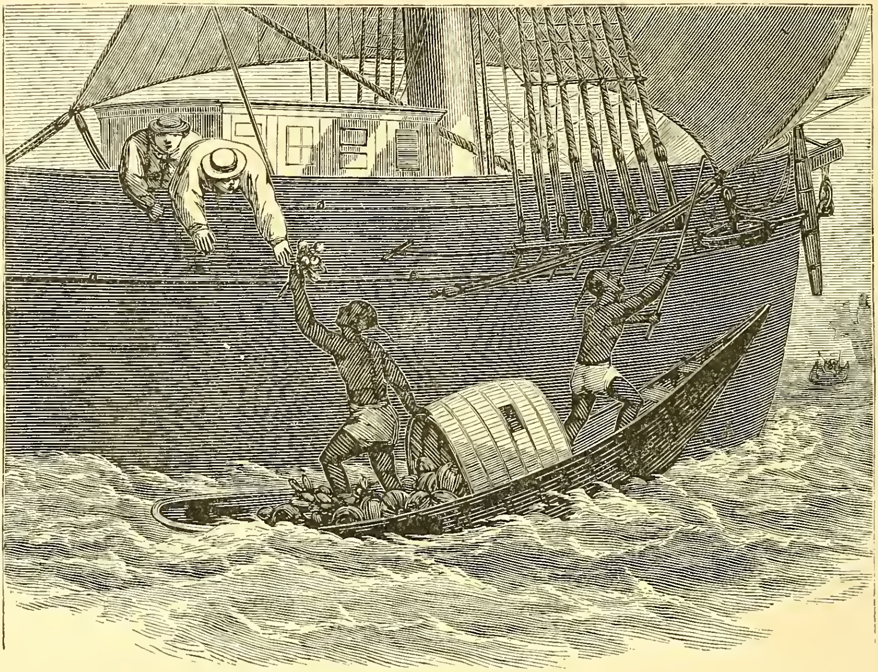
steamer said was not at all indicative of the purity within the palace. One of the boys asked who the King of Oude was, and why he lived there; Doctor Bronson undertook an explanation, which was supplemented by a few words from the captain.

"At the time of the Mutiny, in 1857," said the Doctor, "the King of Oude—one of the richest provinces of India—joined the revolt and took part in the war. Lucknow was his capital and residence, and after the war he was deposed from his throne and ordered to live in Calcutta, where he could be immediately under the eye of the governor-general. He has no power whatever at present, but the Government gives him an allowance of $600,000 a year, and allows him to spend it as he pleases inside the white walls that you are looking at. He rarely goes outside, and then only for a drive along the roads that are least frequented by the English. He has an undying hatred for the English, and will not admit them to his palace: once in a while he invites an American or other foreigner to pay him a visit, but these occasions are not numerous. He is not allowed to return to Lucknow under any pretence whatever, and he cannot go more than a mile from his palace without permission of the governor."

"And I don't think," said the captain, "that, apart from the curiosity of seeing an Eastern king, you would care to visit him. He is a brutal-looking fellow, speaks no English, and is apt to be rude even to the visitors he invites to his palace. His habits of life are not of the best character, and some strange stories are told about him: he is very much married, as he can count his wives by the dozen, and he spends much of his time among his wild beasts, of which he has a very fine assortment. He is particularly fond of snakes, and his collection of those reptiles is said to be the finest in all India, and to contain the largest serpents. It has been rumored that when his wives did not please him he caused them to be fed to the snakes and wild beasts, but the story is not likely to be true. Although his palace is his own, and he can live about as he chooses, it is probable that the Government would interfere and put a stop to any amusement of this sort."

As the steamer neared the city, boats on the river became more and more numerous, and some of them dropped along-side and made fast. They were small craft of the kind known to sailors as "bumboats," and the most of them had fruits of various kinds to sell. Bananas, mangoes, and other tropical products were offered, but as the steamer had made daily landings all the way from Point de Galle to Calcutta, and had enjoyed frequent opportunities for laying in a stock of food, the boatmen

found a poor market. The case is different when a ship comes in from New York or Liverpool, having been a hundred days or more at sea;



BUMBOAT ON THE HOOGLY.

everybody is longing for a taste of fruit, and the boatman that can first make fast to her is sure to sell his cargo at a handsome profit.

The forest of shipping, the roofs and domes of the city, and the great bridge over the Hoogly, indicated the end of the voyage. The steamer anchored in the stream, and our friends prepared to descend the ladder to the swarm of boats that gathered around. "How much?" said the Doctor to the first native that presented himself: the fellow indicated by counting four of his fingers and pronouncing the word "rupee;" and the Doctor understood that for four rupees, or two dollars, they could have the boat to take them ashore. A second boatman offered to take them for three rupees; the first man descended to two, and then the other offered to take them for one. The result was they closed with him, and in a little while were at the landing, leaving their baggage to be sent for from the hotel.

There was a horde of palanquins and garries at the landing, and

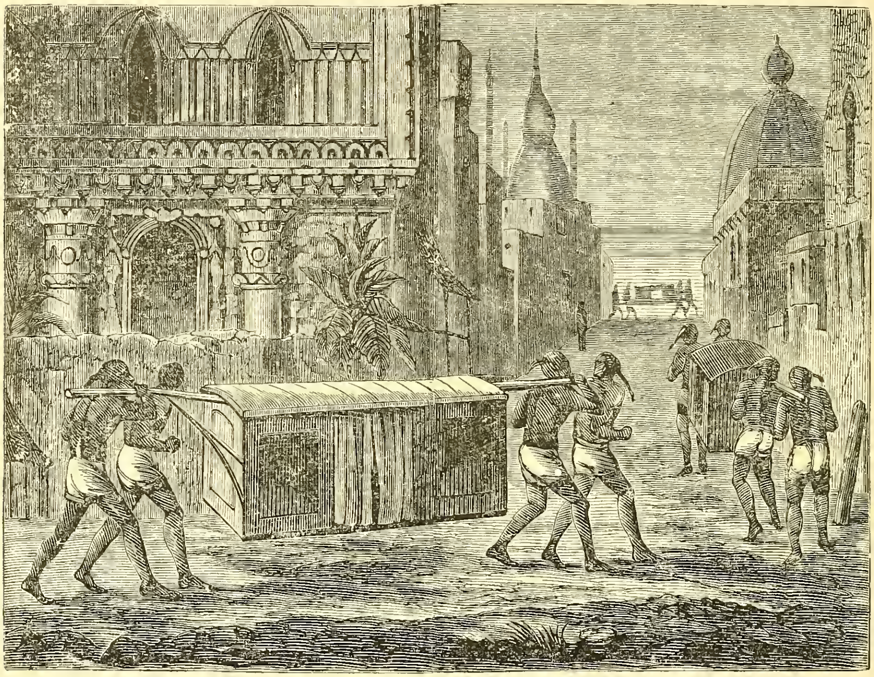
any number of porters and guides, who proffered their assistance. Doctor Bronson and the boys entered a garry, and were driven along the level streets to the Great Eastern Hotel, an establishment that proved to be as imposing in extent as it was wretched in other respects. The manager of the hotel assigned the strangers to rooms, and then told them to select their servants. As he did so, he pointed to a row of servants

LANDING-PLACE AT CALCUTTA.

that had filed in from a yard just outside the hall, and stood there a little way from the office. Frank and Fred inquired what it all meant, and the manager thus explained,

"It is the custom here for each person staying in the house to have a servant to himself. You pay him half a rupee a day, and as much more as you choose, if you are satisfied with what he has done for you."

The boys laughed at the oddity of the situation, and then followed the Doctor's example, and each chose a man. An order was then written for the baggage, and the servants went to the steamer to get it; while



STREET SCENE IN CALCUTTA.

they were absent the boys took a short stroll along the street, having first inquired the way to the post-office, so that they could get the letters that were expected. At the same time the Doctor engaged a garry, and went to the consulate on a similar errand; the three returned to the hotel at pretty nearly the same time, and their united parcels of letters were a welcome sight.

The whole party was busy with its messages from home till near the hour for dinner. Everybody was well, and everybody had read with great satisfaction what the boys had written about their journey in the Far East. Each mail from Asia was eagerly watched for; and if a steamer happened to arrive without any letter from Frank or Fred there was great disappointment. Mary and Miss Effie declared they had never known a tenth part as much about the countries on the underside of the world as they had learned from the letters of the boys, and Miss

Effie intimated to Frank that the knowledge she had acquired had been a partial consolation for his absence; and she näively added that her mind was about as full as it could hold of what is to be seen in strange countries, and the sooner he came home the more gratified should she be. Mary had something to say about cashmere shawls, paintings on ivory, sandal-wood carvings, and other things that come from India; and she hinted that she should not be displeased if he sent or brought some of those curiosities to America. She closed her letter with the announcement that Miss Effie was looking over her shoulder and reading every word, and in all probability approving it.

After this there could be no doubt that Frank would be on the search for Indian manufactures in order to afford delight to his sister and sweetheart. He would have a double pleasure in doing so, as he would add to his own stock of knowledge while carrying out the wishes of the bright-eyed girls.

They retired to their rooms to dress for dinner, as their baggage had arrived from the steamer and was ready for them. When they went to the dining-room the servants of the Doctor and Fred were there, but the attendant of Frank was missing, and the others did not know what had become of him. Consequently, Frank was waited upon by one of the other servants, much to his dissatisfaction: he said he had never waited on more than one person at a time, and it was the custom in India for each servant to take care of no one but his master.

After dinner Frank hunted up his attendant, and demanded an explanation of his absence from the dinner-table. With some difficulty Frank drew from him the information that he belonged to a caste that did not wait at table, but only performed work about the rooms. The case was reported to the manager of the hotel, who suggested the employment of two servants, one for the room and one for the table, and the division between them of the half-rupee per day. After some discussion the proposal was accepted, and Master Frank had two servants all to himself. He thought he would have too much attention, but discovered in practice that he was about as badly served as he had been at any time during the journey; he made a careful mathematical calculation, and determined that with half a dozen servants like those about him he would have been obliged to wait upon himself altogether.

"You see," said the Doctor, "how this superabundance of servants in India works; we were talking about it a few days ago, and I suggested you had better wait till we got farther into India before discussing the question. Each person in the dining-room has a servant to himself, and

theoretically they ought to care for us very promptly; the fact is they are constantly in each other's way, and nearly everything is cold before it reaches us. The service in the dining-room of the Great Eastern Hotel is abominable, and a large part of its poor character is due to the great number of servants; a hotel in New York, where there is one servant to six or eight patrons, would do far better than this.

"If you lived in a house," he continued, "you would find it worse, at least until you became accustomed to it, and secured an efficient man to manage the servants. The man who brings the water for your bath will not empty the bath-tub when you have done with it; he can handle clean water, but the touch of a European pollutes it, and only a person of a lower caste can remove it. If a lady sees something lying on the floor, and tells the nurse in charge of her child to pick it up, the nurse goes to the woman who has control of the servants and tells her something is to be picked up; the head-servant sends the one whose particular duty it is to sweep the floor, and the work is performed. So it goes through everything; each one has his or her particular duty, and will be discharged rather than do the least thing that pertains to another.

A NATIVE NURSE.

"Twenty years ago, when a man went out to dinner in India, it was necessary for him to take along his servant to wait upon him, and most persons do so at the present time. The man who neglected this rule was unable to get a morsel to eat, as no servant, not even that of host or hostess, would condescend to bring him anything, even though ordered by his own employer. This custom has been broken down to the extent that you can now go to a private house to dine without taking a servant along, although it is generally expected you will do so."

"I remember a picture in an American comic paper," said Fred, "that showed how the same feeling prevails among servants in our own country. A man who looked like a laborer was sitting before an open fireplace where a fire was blazing, and a small child had crept into the

flames; a woman was rushing into the room to seize the child, and under the picture was this dialogue:

"'You lazy fellow!' screamed the woman, 'why didn't you pull my baby out of the fire?'

"'Well, mum,' replied the man, 'I didn't hire out to do housework.'"

"Not a bad commentary on the conduct of some of our foreign servants in America," the Doctor remarked, "and the characteristic is not altogether confined to naturalized Americans. Some of our native-born citizens are very fearful of doing something that belongs to others, and very often, for fear of making a mistake, they do nothing whatever."

The evening was passed among letters and papers, and it was pretty well into the night before all three of our friends were asleep. They were out in good season in the morning, and went for a stroll through the streets and a ride on the Esplanade of Calcutta. According to the custom of the country they had a *chota hazree*, or light breakfast, before starting, and returned about eleven o'clock for the *burra hazree*, or substantial meal of the first half of the day. The chota hazree consisted of a cup of tea or coffee and a bit of toast with an egg or two; the burra hazree was a more serious affair, and kept the party at table for a full hour before it was finished.

There was more sight-seeing in the afternoon; in the evening the boys set at work on their letters describing their first day in Calcutta, on the plan they had followed in visiting other cities of the Far East. They had plenty to occupy themselves with, and after writing till their eyes were heavy, they laid aside their labor for the most convenient hours of the next and the following days. Here is their letter, leaving out the personal messages for friends, and other matters that could have no interest for the general reader:

"We have been greatly impressed with the way that Calcutta differs from the other cities we have seen; we thought it might be like Canton, or Yokohama, or Batavia, but it isn't like any of them. The people are different, and they have different manners, customs, religions, and ways of life generally, so that it is not easy to make comparisons; and then they differ a good deal among themselves, and you will see perhaps a dozen kinds of dress in a walk of an hour or so.

"Calcutta stands on a level plain, and the surveyors who laid it out acted liberally by giving it wide streets, and plenty of ground for everything that was needed. The part where the Europeans live is full of fine buildings, both public and private, and wherever you go you see evidences that there was plenty of money at command when it was built. In a hot

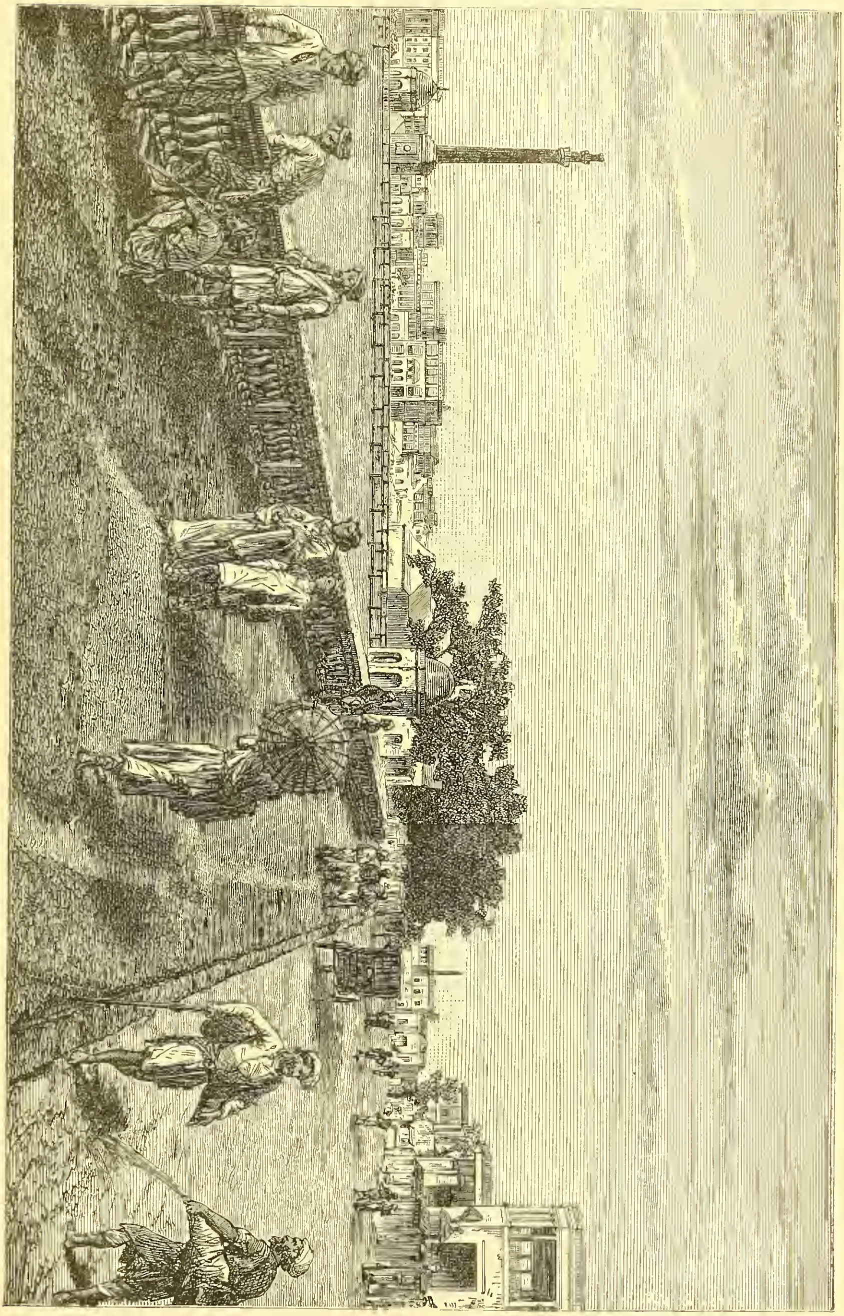
country like this they wanted lots of room, and all the houses are surrounded by large yards, with an abundance of shade-trees.

"The population is about half a million, and includes Hindoos, Moslems, Christians, and Buddhists, together with a miscellaneous lot that it would be difficult to classify. The Hindoos comprise more than half the population: there are 150,000 Moslems, and about 25,000 Christians, mostly Europeans and Eurasians.

"On the streets the mingling of costumes forms a curious scene. Red turbans and white, blue turbans and gray, skull-caps, tarbooshes, straw-hats, and sola-topees are thrown together like the combinations of a kaleidoscope; but the turbans are most numerous, and frequently crowd some of the other head-gear out of sight. Most of the natives are dressed in white: much of it is spotlessly clean, and evidently fresh from the laundryman; but there are many who cannot afford clean linen every day, and consequently their garments are the reverse of pleasing in appearance. Evidently the natives of India have no trouble with the change of fashions, as their garments are said to be of exactly the same cut and material from one century to another.

"The English have done much for Calcutta, and an inhabitant of two hundred years ago would hardly recognize his old home if he should revisit it to-day. There are many public buildings that would do honor to a large city in Europe or America; there are public gardens, beautiful little parks, handsome lawns, artificial ponds, and the like, which are collectively very attractive. There is a large open space called the Maidan, or Esplanade, with several roads across it, and one along the bank of the river, and the society of Calcutta comes here for its daily drive at sunset. We rode there last evening and saw a great many showy turnouts, some of them belonging to wealthy natives, who seem to be fond of display. Drivers and footmen were in native dress, which is constructed so as to present the most attractive colors in the most attractive forms. Red and green and blue turbans rolled by us in rapid succession, till we began to wonder if the swiftly-moving panorama would ever come to an end. Those whose rank allows it have the additional attraction of outriders, and these fellows are by no means less picturesque than the rest.

"The drive lasted an hour or so, and when it was fairly dusk the carriages filed away, and the Maidan became perfectly quiet with the exception of a stray vehicle now and then which had been belated, or the matter-of-fact bullock cart or wagon of the lower classes. Sometimes the fashionable carriages come in collision with each other, but generally the accidents that occur are the result of carriages and bullock-carts meet-



THE MAIDAN, OR ESPLANADE OF CALCUTTA.

ing, owing to bad management by the drivers of the latter. We saw one of these encounters, and for a few seconds it seemed as though the bullock would step into the carriage, in spite of the efforts of his driver, and also of the gentleman on the box of the carriage, to keep him out.

A COLLISION.

"The compradors attached to the foreign commission-houses have a special kind of light cart with two wheels, which they use in going from their offices to the harbor and back again. The comprador is his own driver, and it is not an unusual sight in the busy hours of the day to see one of these fellows dashing along to the great peril of the people on foot; he is generally in a hurry, or at least pretends to be, but his hurry is confined to his riding rather than to his walking. If you watch him when he is on foot, you find that he moves with as much dignity as any one else, and does not intend to throw himself into a perspiration.

"Every carriage of any distinction has a syce or groom to run ahead of it, and they tell us that these men will keep up with the horses as fast as the latter can go, and will often be practically unwearied when the animals are tired out. They are all Moslems, and are fine muscular fel-

lows, with only a turban on the head and a strip of cloth around the waist, so that they have perfect freedom for the movements of their limbs.

"In one of the smaller streets we saw a collision between two palanquins, which resulted in the occupant of one being spilled out, and a general mixing up of the little crowd around it. For a few minutes it looked as though there would be a fight, but nothing of the kind happened, and the whole affair was soon over. The natives are very careless while driving or walking, and you must keep a sharp lookout for the

AN UNPLEASANT OCCURRENCE.

poles of palanquins or *palkees*. They are as cunning as they are careless, and we have heard some funny stories about their tricks. Here is one of them:

"An Englishman bought a black horse one day from a native dealer, and particularly admired the glossy coat of the animal. That night an attempt was made to steal him from the stable, and it came very near succeeding; the next day the purchaser discovered that the horse had been dyed with a peculiar preparation that would wash off with strong soap

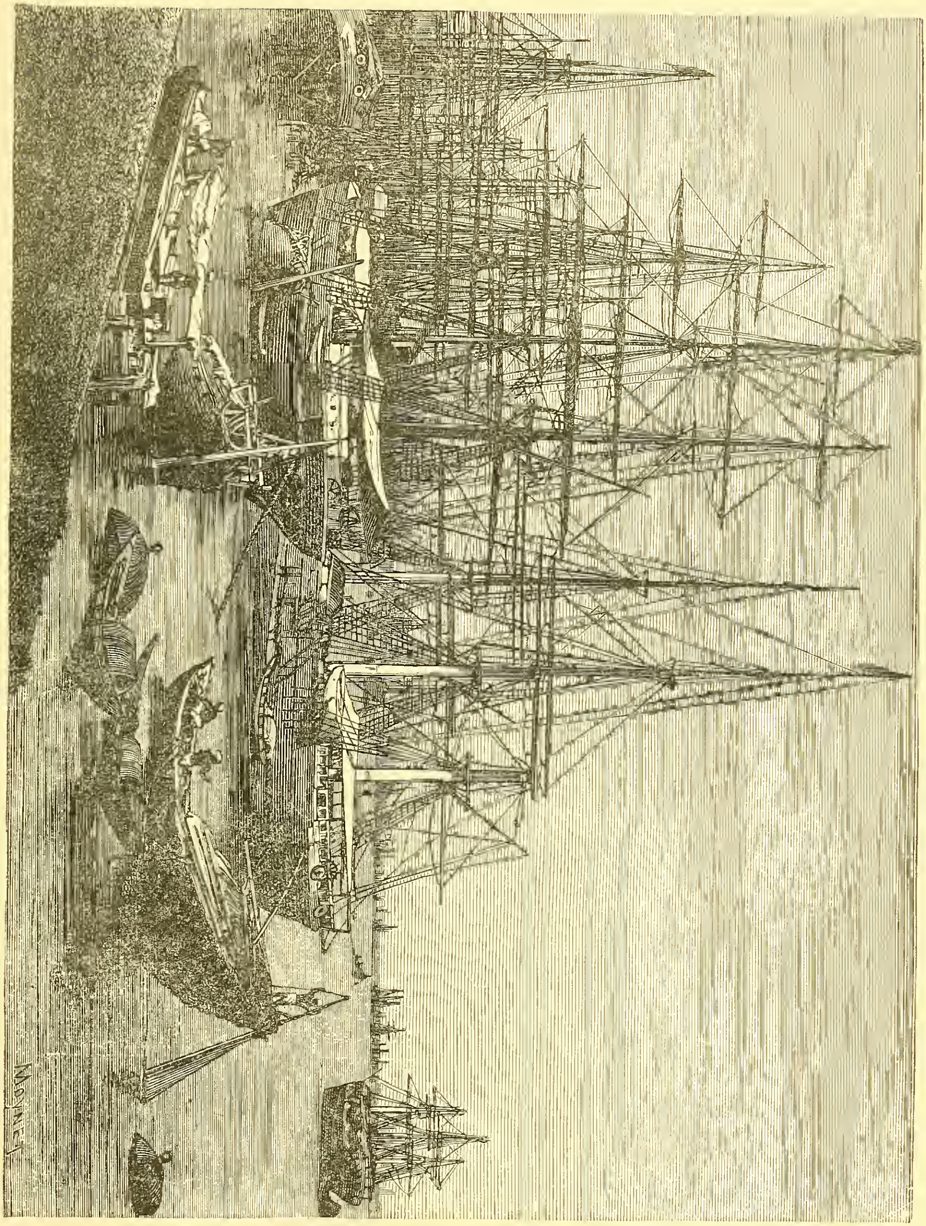
and water. It was the intention of the dealer to steal the horse before the trick could be discovered, and then by washing him he could not be identified, as the natural color of his coat was gray; the gentleman learned that the horse had been sold and stolen at least half a dozen times. Doctor Bronson says the American horse jockeys might learn some useful lessons by coming to India, and he hopes a good many of them will come—and stay.

"The river forms the harbor of Calcutta, and sometimes the amount of shipping here is very great. Nearly all the ships are English, as they have the most of the carrying-trade of the world, and as we drove along the bank of the river to-day we saw only four vessels flying the American flag. Twenty-five years ago we should have seen ten times as many and perhaps more; American ships are fast disappearing from the ports of the East, and at the rate they are going we should not be able to find one of them in the harbor of Calcutta a decade hence. What a pity it is! as our flag flying from the mast of a ship, when we are so far away from home, is always a most welcome sight to a travelling American. We wonder if our foreign trade will ever revive so that our ships will be as abundant in Eastern waters as we are told they were before our civil war?

"The ships lie against the bank of the river for two or three miles, and in some places they are three or four deep, so that at a distance their masts resemble a forest of trees stripped of their foliage. Twice in recent times Calcutta has been visited by hurricanes or typhoons—in 1842 and 1864—and on both these occasions nearly all the ships in the harbor were driven from their moorings, and many sunk. A gentleman who was here during the last of these storms says the ships were actually piled one above another, and that the loss of property was very great. This was the storm that flooded Sangur Island and all the lower part of the Hoogly, and caused an enormous loss of life. The centre of the typhoon of 1842 passed directly over Calcutta, and that of 1864 within a few miles of it.

"Going up the bank of the river from the Maidan we pass a long line of great warehouses that front on the water, and come to the bridge over the Hoogly. Doctor Bronson says this is the largest bridge of the kind in the world, as it is neither on piles nor suspended, but is supported by pontoons. He advises us to describe it, as it will be interesting to all boys whose fathers are engineers, and to a good many others besides; so we'll try.

"Owing to the treacherous sands of the river, and the great depth



HARBOR OF CALCUTTA.

necessary for piers for a fixed bridge, it was determined to build a floating one, so that it could be economically constructed, and easily repaired in case of accident. The bridge is more than 1500 feet long from one abutment to the other, has a roadway forty-eight feet wide, and footways seven feet broad on each side, and is said to have cost at the rate of ten dollars for every square foot of platform. The platform is of wood, resting on iron girders, which are supported twenty-four feet above the water by timber trusses resting on iron pontoons. There are twenty-eight of these pontoons, each 160 feet long and ten feet broad; they are each divided into eleven water-tight compartments, and moored both up and down stream by means of iron cables. Viewed from the lower part of the harbor as one approaches from the sea, the bridge appears like a massive fixed structure, and we could hardly believe the captain of the steamer when he told us that it was only a floating affair, resting on pontoons.

"There, we've described the bridge the best way we can, and the Doctor says it is very well done for inexperienced boys like ourselves. We'll stop now and rest awhile."

CHAPTER XXVII.

CALCUTTA, CONTINUED.—DEPARTURE FOR BENARES.

THE letter about Calcutta continued as follows:

"From the Hoogly bridge we went to see the famous Burning Ghaut, where the Hindoos dispose of their dead. Ghaut means 'steps,' and the Burning Ghaut is nothing more nor less than a series of steps on the bank of the river, with a wide platform at the top.

"When we entered the place the sight that met our eyes was anything but pleasing. The Burning Ghaut is the place where the Hindoos burn their dead, and it is situated on the banks of the Hoogly, a branch of the Ganges, in order that when the cremation is finished the ashes may be thrown into the sacred river and swept away to sea. The bodies to be burnt are placed on piles of wood, and the torch is applied by one of the relatives of the deceased. If the person was wealthy there is generally a large assemblage of mourners, some of them being relatives, and others hired for the occasion; all are dressed in white robes of a peculiar pattern, such as are worn only by mourners, and the sounds of lamentation are often very loud and prolonged. But if the deceased individual was poor the ceremony is very brief, and there are no mourners, nor is the funeral pile as large as in the other case.

"It is said that formerly the priests used to put out the fires before the bodies were half consumed, in order to save the wood; the remains were then thrown into the river and floated down among or past the shipping. There were so many complaints of the disagreeable sights forced upon those who were coming up the river, that the Government has of late years stationed an officer at the Burning Ghaut to see that the work is properly done, and only the ashes find their way into the Ganges.

"As we came into the place we saw the body of a man lying upon a pile of wood from which the flames were rising; near the head of the pile stood a crowd of mourners singing a funeral song or chant, and two or three vultures were perched on the wall above them. A funeral party

had just arrived, and the men who attended to the burning were rushing about to prepare the pile for the new-comer. We only remained a few

THE BURNING GHAUT AT CALCUTTA.

minutes, as a very brief survey of the scene was quite enough to gratify our curiosity.

"The worst sight of all was in a bamboo shed at the side of the ghaut farthest from the river, where two or three dying persons were lying on mats, and evidently near the end of their lives. Doctor Bronson says it is the custom of the Hindoos, when a man is supposed to be sick unto death, to carry him to the bank of the river, so that he may die with his eyes looking on the sacred waters. They pour water in his face, and stuff his mouth with mud from the bank of the stream, and his death is

generally hastened along pretty rapidly. If he should recover, which sometimes happens, after this ceremony is performed, his friends will not recognize him, and he is ever after treated as an outcast; his property is divided among his heirs, and he is considered legally dead, without any rights whatever. No one will associate with him, and he finds life such a burden that he is usually glad to end his troubles by throwing himself into the river.

PARASITICAL VINES ON A TREE.

"A far more enjoyable excursion than this was to the botanical gardens which are on the opposite bank of the river, about three miles from the Hoogly bridge. We went there in a carriage and had a delightful drive, not only on the road but through the garden. The garden contains nearly 300 acres, and has a front of a mile on the river; it was laid out a hundred years ago as an experimental garden, to ascertain what foreign plants would grow to advantage in India. This garden was the cause of the introduction of tea into India, and also of the cinchona-trees, from which quinine is made.

"One of the finest banyan-trees in the world is in this garden; it is a hundred years old, and its trunk is fifty-one feet in circumference, while it has 170 roots that descend from the branches to the ground. It makes a whole grove by itself, and is a wonderful thing to look at and sit under.

"There are avenues of mahogany-trees and palms, the latter in great

variety, and there are groves and avenues of trees whose names are quite unknown to anybody in America except to botanists. There are flower-beds in great number, and there is a conservatory, 200 feet long, filled

THE COTTON-TREE.

as full as it can be with all sorts of floral products. In some respects the garden is finer than the one at Kandy, Ceylon, while in others it is hardly equal to it.

"Some of the trees are covered with parasitical vines that almost envelop the trunk, and it seems to have been the object of the founders of the garden to experiment with these plants in the hope of making them

useful. They have done so in the case of the rattans and similar creeping vines, and in some parts of India the gathering and shipment of rattans form a considerable industry. Unfortunately the parasites are not now in bloom, or we might have seen the trees covered with red blossoms to the complete exclusion of their own.

"The cotton-growing business in India owes a good deal to this garden, as it has helped the distribution of the plants, and made a great many experiments to learn the variety of cotton-tree best adapted to any particular soil. Most of the Indian cotton is grown on a bush, as in the United States, and has to be renewed every year from the seed; but there is one variety that takes the form of a tree, and grows two or three years. It has numerous branches, and when the pods are opened, and the white cotton is hanging out, the appearance of the tree is very pretty. Some of these trees produce a cotton with a yellowish hue, while others are snowy white. It is no wonder that people say 'white as cotton' when they want to make a comparison, as there is nothing of a purer white than the contents of a cotton boll when it is first opened.

"We came back from the garden by the river road, and crossed the bridge to Calcutta once more. Then we went to see Dalhousie Square, or Tank Square, as it was formerly called, and have a stroll around its borders. It is right in the middle of the city, and appears to be twenty or twenty-five acres in extent; there is a fence all the way around it, and the banks are nicely sodded and covered with grass. You will wonder when we say that there is a great reservoir in the centre fed entirely by springs at the bottom, and the supply is so great that it never goes dry. The fact is, the whole city of Calcutta rests on a bed of quicksand, through which the water from the Ganges finds its way with the greatest ease. The tank was originally dug to supply the inhabitants with water, and they had only to go a few feet below the level of the river to find the water coming through the sand and bubbling up perfectly pure. The sand cleansed it from all impurities, and it has always been regarded as the sweetest water in the city.

"When we reached the north-west corner of Tank Square our guide indicated a spot where there was once an obelisk to the memory of the men who perished in the famous Black Hole: the Black Hole was a room in a building close by here, but both building and obelisk have disappeared. You remember the story: On the capture of Calcutta by Surajah Dowlah, in 1746, 146 Englishmen were forced into a room only eighteen feet square, with two small windows on the western side, and left there till morning. The night was hot and damp, and there was no wind blow-

ing, and in the morning only twenty-three of all the number were alive. Several of these never recovered — thirst and foul air caused the most terrible sufferings, ending in death, and the name of Black Hole is frequently applied to a place that is badly ventilated.

"The native water-carriers are a curiosity; they supply houses that

BENGALEE WATER-CARRIERS.

are without running water, and are employed to sprinkle the streets when the dust is likely to rise. Their equipment is very simple, as it consists of the skin of a pig or goat—generally of a pig, as it will hold water better than the other. The skin is carefully sewed up, with the exception of the neck, which is left open to receive the water; you frequently see these men going around with their burdens, and the price

they get for bringing water is so small that they must be very diligent to earn twenty-five cents a day.

"They have a bird here of the buzzard species which is of great assistance in cleaning the streets; he is called 'the adjutant' by the English residents, and, as nobody thinks of doing him any harm, he walks about fearlessly, and sometimes you see him in the very middle of a crowd of natives. A gentleman tells us that when these birds become troublesome around the barracks of the soldiers, several tricks are played upon them. The soldiers will take a couple of bones and tie them together with six or eight feet of strong cord; the bones are then flung to a couple of adjutants, and each manages to swallow one. When the birds find themselves united they rise in the air and endeavor to fly, and their efforts to separate themselves are very amusing to the soldiers. Finding they cannot do it, they come to the ground again, and somebody cuts the string and releases them.

"When the adjutant has eaten something, he mounts to the top of a post or some other elevated spot, crosses his legs, and becomes motionless while his food is digesting. The soldiers take advantage of this habit by digging the marrow from a beef-bone, and inserting a cartridge in the hollow thus formed. Over the cartridge they put a piece of lighted punk or tinder, and then a cork, and when all is ready they throw the bone to an adjutant who is just finishing his dinner. Finding there is nothing more to eat, the bird mounts a post, and goes to sleep in his usual way; in a little while the fire reaches the cartridge and an explosion follows, resulting in the instant death of the unfortunate bird. Of late years this amusement has been forbidden, greatly to the credit of the officers commanding the garrisoned places.

"We have kept our eyes open to see the native ladies of Calcutta, but have not been very fortunate. Nineteen-twentieths of the natives on the streets are men, and the few women that come out so that we can look at them are of the poorer classes. We have seen some rich ladies riding in carriages, and now and then we encounter a cart drawn by a pair of bullocks, and moving at a dignified pace with a native lady seated inside. The canopy above her head partially conceals her from view, and then we do not think it exactly polite to look at her more than a few seconds at a time. These are probably the wives of wealthy merchants; they spend most of their time at home, and only come out for a ride on very fine days, or to visit the shops where handsome things are for sale. Their garments are generally white, and there does not appear to be any change of fashions among them more than among the men.

"A gentleman who has lived here for some years, and written about the women of Calcutta, says they are very pretty when young, but their beauty fades quickly; at twenty-five they have 'crows'-feet' around the

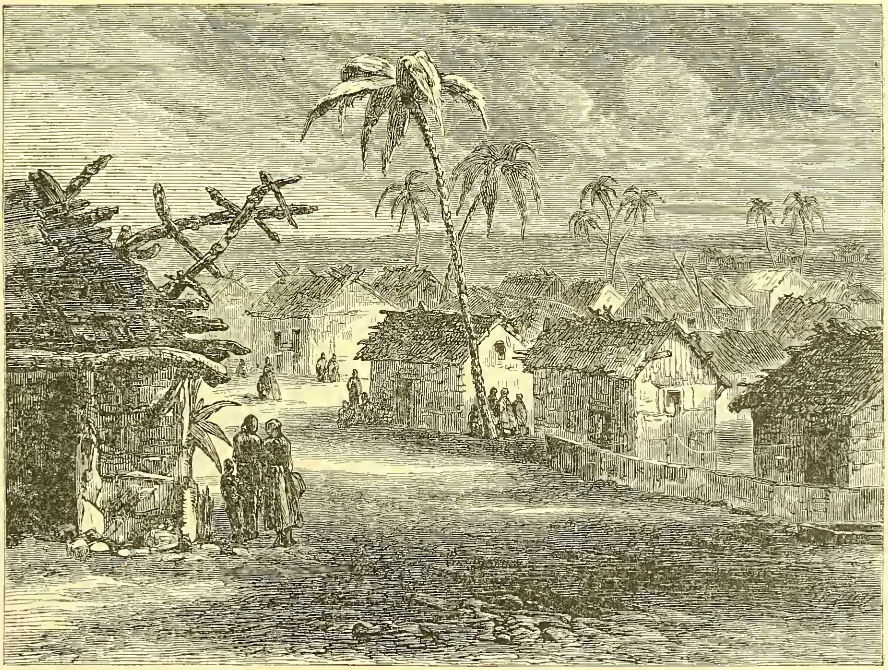
NATIVE WOMAN OF BENGAL.

corners of their eyes, and at thirty they begin to stoop and walk like a man of seventy in America. They all wear rings in their noses, and sometimes you will see a pearl in the side of each nostril, in addition to a hoop of thin gold that almost covers the mouth. Of course they have rings in their ears, and the arms and ankles are not neglected; they wear no shoes or stockings when at home, and make up for the bareness of their feet by covering the toes with rings as American ladies cover their fingers. Their hair is thick and black, and combed behind their ears, with a parting in front such as we see at home.

"Women of the middle and lower classes are as fond of jewellery as the richer ones, and when they cannot afford it of solid gold they have it of silver, or of silver or gold plate. Some of them do not wear orna-

ments in their noses, but they make up for the absence of these things by piercing the ears in many places, and loading them down with jewellery. We saw one woman to-day whose ears were thus encumbered with so many trinkets that they appeared ready to fall off, and it is difficult to understand how she could be comfortable with them. Then she wore a heavy necklace of silver, and a part of her dress displayed some embroidery of gold. She was sitting on the floor of a shop examining a beautiful shawl, and probably wondering whether she would look any prettier with her shoulders covered with it.

"A remarkable thing about Calcutta is the contrast between the native and the foreign quarters. Where the Europeans live the streets are wide, and each house has a garden around it; in the native quarter the streets are mostly narrow, and the houses are crowded closely together, with not the least attempt at gardening or the preservation of any open



PART OF BLACK TOWN, CALCUTTA.

spaces around them. The native section is called 'The Black Town,' and some parts of it are so dirty that the wonder is they do not breed a pestilence every summer. None but the natives live there, with now and

then a foreigner who has become an outcast from his fellow white men, and prefers the society of natives to a life of solitude. In the outskirts of the city the density of the buildings decreases, but not the dirt and degradation. The huts of the natives are loosely constructed of light frames daubed with mud, and in many places they look as though they had been constructed by a man who never saw a house before he made this effort at building one.

"You change suddenly from the wealthy and aristocratic part of Calcutta to the Black Town; one minute you are among palaces, and the next in the midst of hovels. Some of the grand avenues have wretched little streets leading from them, and the more you look around in Calcutta the more do you find these contrasts. The only relief to the general squalor of the Black Town is an occasional palm-tree, that half looks as if it was ashamed to be here. The native children play in the dust or mud of the streets as though they were a part of it, and their parents encourage them in the sport. It is to their credit that they never pelt strangers with the mud, as they would be apt to do in some other parts of the world.

"One of the native streets is a bazaar for the sale of Oriental goods, and if you go through it you are pestered with peddlers from the time you enter till you leave. They have all sorts of things to sell, such as India shawls of a great many kinds, jewellery from various parts of the country, shellwork from Singapore, and numerous things from China, Japan, and other Oriental countries. The peddlers and shopkeepers invariably ask two or three times as much as they expect to get, and of course the purchaser must meet them by offering only a half or a third of what he is willing to give. Then you haggle and haggle, and after a while the medium is reached and the bargain closed. This kind of trading is a great trial of patience, and it is not a wise thing for an ill-natured man to undertake bargaining with a native, as he is very likely to lose his temper.

"There are many other things in Calcutta we would like to write about, but we are too busy to put everything down; and, besides, if we told you of all we saw, it would be necessary to have a couple of clerks to take our notes and fill them out. Then, too, there is much to see in other parts of India, and we must move on. We leave to-night on the train for Benares, and, as our time is limited, we shall not stop on the way. We send this letter by the weekly mail that leaves Bombay every Saturday when the south-west monsoon is blowing, and every Monday when there is no monsoon. The train from here takes sixty hours to go to

Bombay, and so we must post our letter three days in advance of the steamer's sailing."

They left according to their programme: the regular mail-train for passengers going through to the northward or to Bombay starts at nine P.M., and has always done so since the line was first opened. While they were waiting at the station Doctor Bronson told the boys of an interesting occurrence connected with the departure of the train. It was about as follows:

"At the time of the Mutiny, as I have already told you, the railway from Calcutta terminated at Ranegunge, 120 miles away. As soon as the Mutiny assumed serious proportions, urgent appeals for aid were sent to Madras, Bombay, and other points, and orders were issued for all available troops to be put in motion as fast as possible for the scene of the trouble. The Madras Fusileers, Colonel Neill, were the first to reach Calcutta; they arrived late one afternoon, and immediately proceeded to the railway-station. The train for Ranegunge was just ready to start, and there would be no other for twenty-four hours.

"Colonel Neill asked for a delay of ten minutes, and promised to have his men and baggage on board at the end of that time. The station-master refused, and said the train must start immediately.

"'Give me five minutes only,' said Neill.

"'No,' answered the station-master, and he raised his hand to give the signal for departure.

"Neill raised his own hand at the same time, and greeted the astonished official with an emphatic 'I arrest you!'

"Two soldiers were called to stand guard over the station-master, and two others mounted the locomotive and performed the same service for the engine-driver. In a quarter of an hour the men and baggage were on the cars, the prisoners were released, and the train moved away. The day thus gained enabled the Madras Fusileers to reach Benares a few hours before the time fixed for the revolt of the native garrison, and the murder of all the Europeans in the place. The outbreak occurred at the morning parade, as it had been appointed; but it did not last long, owing to the presence of Neill and his regiment of English soldiers. Many a life was saved by this sudden proclamation of martial law in the railway-station of Calcutta."

CHAPTER XXVIII.

NORTHWARD BY RAIL.—OPIUM CULTURE.—ARRIVAL AT BENARES.

FROM the terminus at Howrah, opposite Calcutta, the railway follows the right or western bank of the Ganges, sometimes quite near the stream, and again miles and miles away from it. As it was night when our friends started, there was little to be seen on the way, and they soon devoted their attention to the problem of sleeping.

The railway-carriages are quite comfortable when not too crowded, and the Doctor and his young companions were fortunate in finding only one passenger in the compartment they occupied. Each of the first-class compartments is arranged with a wide sofa or stuffed bench on each side, and there is a shelf or bunk above it that can be lowered, something after the manner of the upper berth in a Pullman sleeping-car; consequently four persons are nicely accommodated, provided they have plenty of blankets and other coverings to keep them warm. Our friends had sought advice before leaving Calcutta, and each of them bought a *rezie*, or thick quilt, for use on the railway; these rezies, with their travelling shawls and overcoats, kept them comfortable during the long night that ensued after their departure from the Howrah station, and the boys declared it was the best kind of fun to travel by rail in India.

The company makes no extra charge for the use of these sleeping accommodations, but it does not provide any kind of bedding, and there is no colored porter to attend to the wants of passengers. By the rules posted in the carriage, a compartment is intended for eight persons, and when there happens to be this number of passengers the journey is anything but agreeable, as there is not room for all to lie down. At the end of the compartment is a wash-room with a supply of water, but no towels, soap, or any other toilet requisite. The Pullman car has not yet found its way to India, and there is a vast chance for improvement over the present mode of railway travel.

Nearly every Englishman living in India travels with his servant, and the compartment adjoining that of our friends was occupied by a

couple of English residents who, as soon as it was daylight, called their servants from the third-class carriage, where they had been riding, to get ready the *chota hazree.* By means of an alcohol lamp the coffee was easily made, and the travellers were able to extract as much comfort as possible from the journey. Our friends had not thought it worth their while to be encumbered with servants after their experience of chance attendants in Calcutta, and consequently they waited for their coffee until they reached a station where that article was to be had.

The refreshment system of the East Indian Railway is not at all bad, when we consider the newness of the iron road and the comparatively small number of travellers to patronize it. At convenient distances there are refreshment-rooms, where meals of a fair quality are served at reasonable prices: many of these restaurants are managed by one man, who has a contract with the railway company, and is guaranteed against loss on the condition that his service is satisfactory. Most of these restaurants have hotels attached, so that a traveller may be lodged and fed without leaving the station, in case he arrives late at night and does not find the train he wishes to connect with. On the express-trains the conductor will telegraph ahead to a dining-station and order a dinner, so that the traveller will find it all ready for him on the arrival of the train. Our friends did this on several occasions during their travels in India, and were well pleased with the result.

The boys regretted that they were obliged to travel in the night, on account of missing the view of the country. They wanted to have a peep at Chandernagore, twenty miles or so above Calcutta, which, with Pondicherry, forms the French East Indies, as already stated. Frank consoled himself for the deprivation by reading to Fred the description of the place, which is less than two miles square, and has about 20,000 inhabitants, the most of them Hindoos. He learned further that it was the only profitable possession of the French in India, as the British Government gives it 300 chests of opium every year on the condition that the inhabitants will not cultivate that drug or interfere with the salt monopoly. The chief occupation of the inhabitants is to raise cattle for the Calcutta market, and their town has a very dilapidated appearance.

Frank wanted to look at the fields where opium is raised, but the Doctor told him it was not the season for the cultivation of the plant that produces the famous drug, and he would have seen nothing more than the bare earth if his journey had been in the daytime.

Thereupon followed a talk about opium and its peculiarities, which we will give for the benefit of those interested in the subject.

RAILWAY TRAVELLING IN INDIA.

"Opium is raised from the plant we call the poppy," said the Doctor; "it was known as far back as the third century of our era, and before that time extracts of the poppy were in use for medicinal purposes. It is made in Asia Minor, China, Persia, Egypt, and India, the latter producing more than all the other countries together. Experiments at its cultivation have been made in Australia, Africa, Europe, and the United States; but none have been successful, as the best qualities of the drug are to be found only in the Asiatic opiums. Next to the Indian opium comes that of Asia Minor, commonly known as Turkey or Smyrna opium, and some authorities consider it equal if not superior to that from Hindostan."

One of the boys asked if it was raised all over India, or only in a small portion of the country.

"The poppy grows in various sections of the country," was the reply, "but the greater part is cultivated in the valley of the Ganges, in a belt

COOLIES GOING TO THE POPPY-FIELDS.

of country 600 miles long by 200 in width. About 600,000 acres are devoted to it altogether, and in some years nearly 700,000. Many of the opium farms belong to the Government, and the cultivation is under its direct management, while others are run on private account, and a heavy tax is imposed upon all the opium produced.

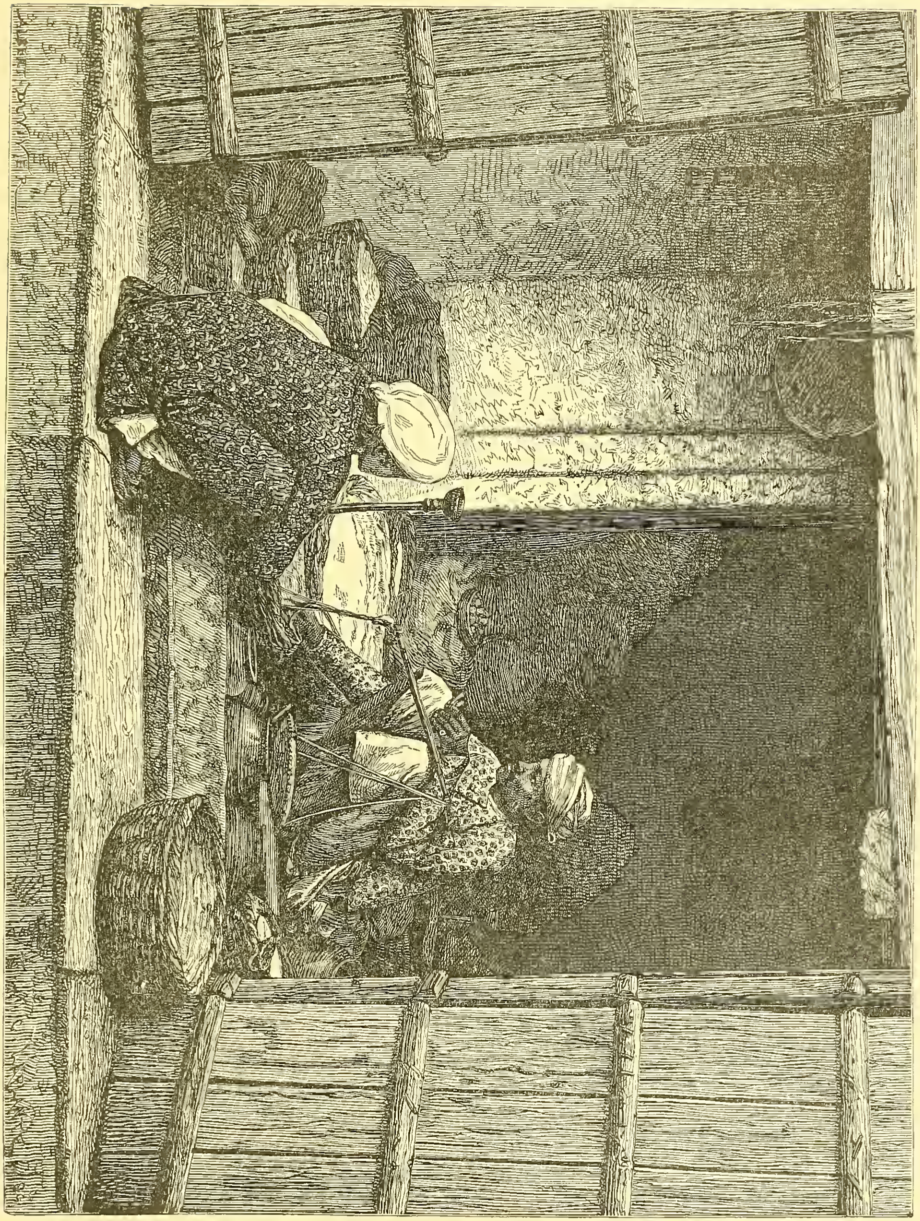
"The English justify their wars to compel the Chinese Government to admit opium as an article of commerce, on the ground that a market for the drug was necessary for the existence of the British Government in India. China was the only market, and therefore the Chinese must

not be allowed to prohibit the drug that was killing many thousands of their people every year, and making beggars and maniacs of many other thousands. England makes a poison, and her commercial interests will suffer if any possible market is closed to that poison; a weak nation objects to killing its subjects in order that English commerce may prosper, and immediately England makes war on that nation. 'You may choose your way of death,' England said to the Chinese—'perish at the muzzles of British cannon and rifles, or perish by admitting our opium. We are strong and you are weak, and we intend to secure the prosperity of British commerce, whatever it may cost you in the lives of your people.'

"The net revenue from opium is about £10,000,000, or $50,000,000, annually. This money is raised on 100,000 chests, weighing 160 pounds each, and the tax on the article is considerably more than the cost of production. There has been much criticism among enlightened Englishmen of the means by which England raises her revenues in India. The total revenue from all sources is £50,000,000, or $250,000,000, in round figures, of which opium pays £10,000,000, salt £6,000,000, and land £20,000,000, while the rest comes from customs, excise, and stamp duties. You observe that opium pays a fifth of the entire revenue, and it is the struggle for this fifth of the revenue that has involved England in disgraceful wars. The land tax of £20,000,000 is a heavy burden on the population, and the salt tax falls on the poorer classes, to whom that article is a greater necessity than to the rich.

"We will drop the political bearings of opium, and look at the way the drug is made. The plants grow broadcast in the fields, and the laborers thin them out just as cotton-plants are thinned in America. When they are of the proper age the capsule or bulb is gashed with a knife having several parallel blades; this work must be done very skilfully, so as to prevent the knife going through the skin of the capsule, which would cause the total loss of the juice. The cutting is done in the afternoon; the next morning the juice that has exuded is scraped off with an iron spoon and collected into an earthen jar, and the operation is repeated five or six times in succession at intervals of two or three days.

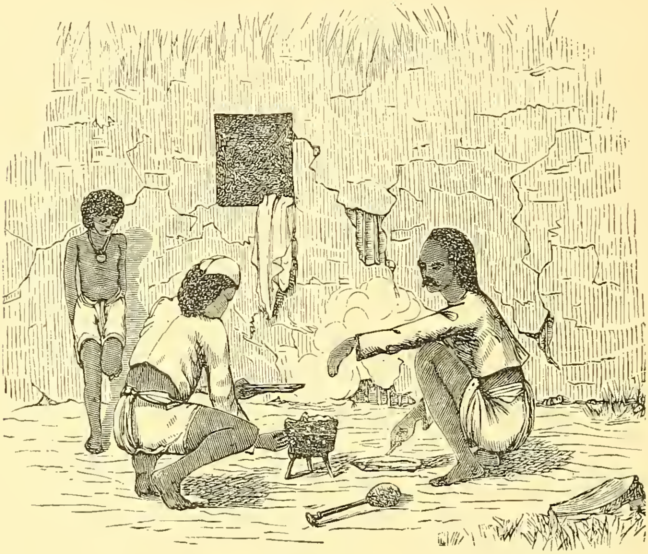
"The juice when collected is like thick cream; a dark liquid called *pasewa* is drained from it and carefully kept, while the more solid mass settles to the bottom of the jar, and is slowly dried in the shade. When it has reached the consistency of freshly-kneaded dough it is formed into balls, and thickly covered on the outside with a mass composed of pasewa and the leaves and stalks of the poppy plant, which have been dried and pounded to powder. These balls or cakes are about six inches in diam-



SHOP OF AN OPIUM MERCHANT.

eter, and weigh a little less than five pounds; they are dried in the sun, and afterward in the shade, till the outside is like a thick crust of bread, when they are packed in the chests, and are ready for market."

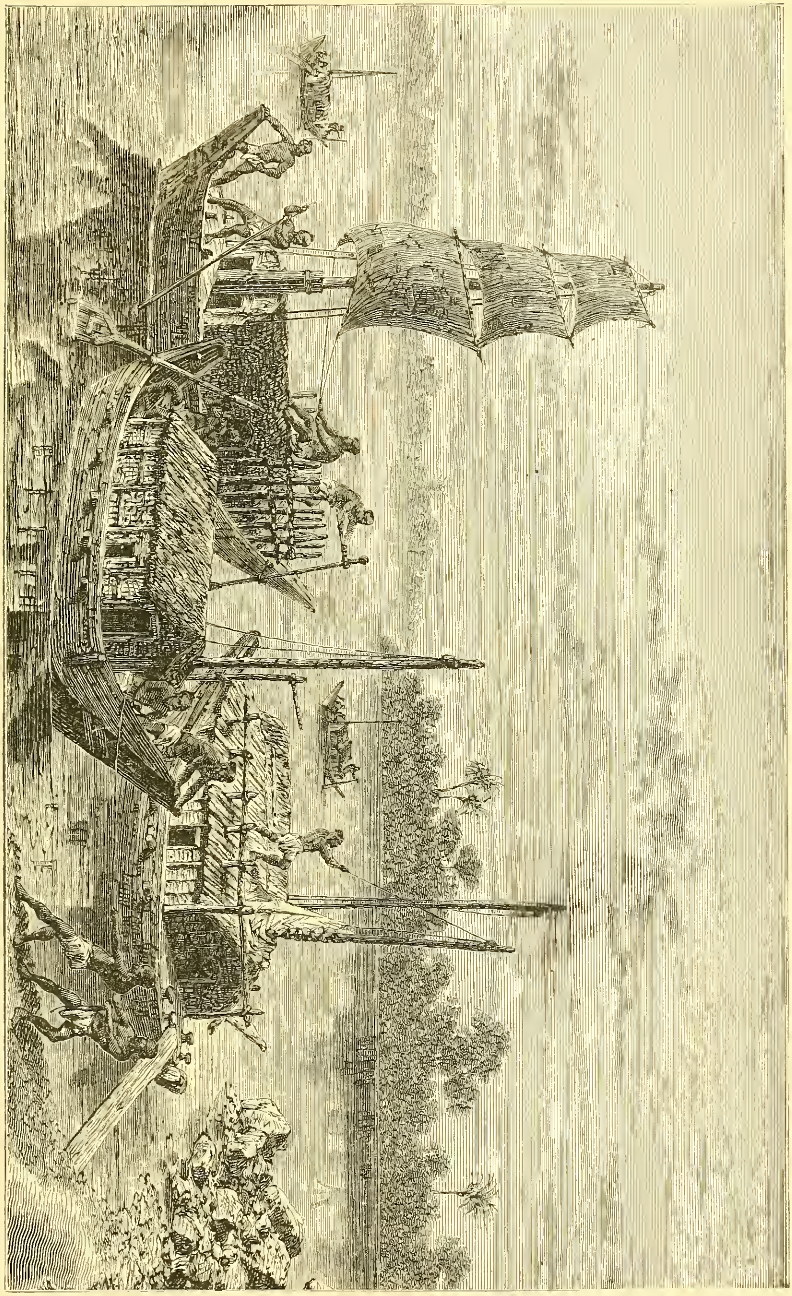
Soon after daylight our friends looked out on the landscape through



COOLIES COOKING.

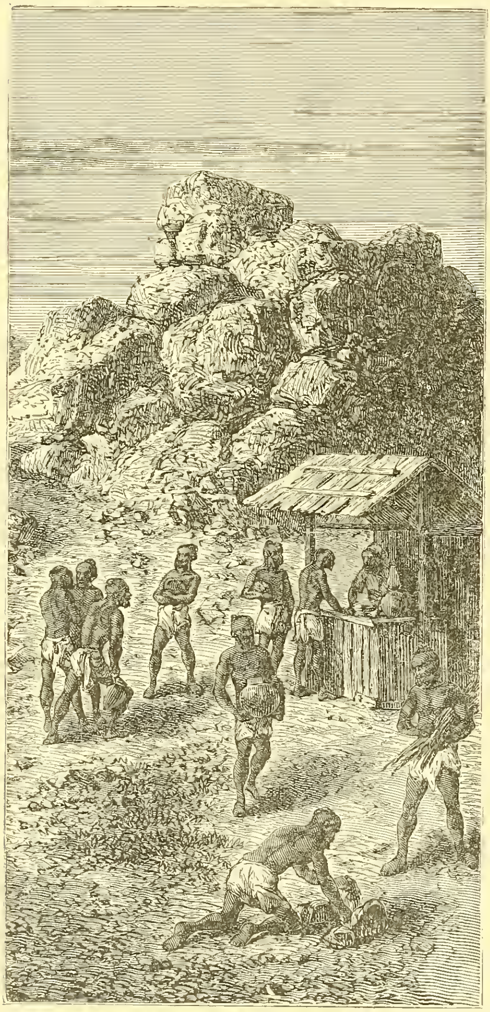
which the train was moving. They saw a flat country, with villages of mud-huts scattered here and there, and with broad fields, where men were at work clearing the ground for the next season's crop. The Doctor said they were in the midst of the opium country, and the fields around them would be waving with poppies a few months later. In some places the villages were close to the track of the railway, and as it was near the hour of breakfast a good many of the natives were engaged in cooking their morning meal. The apparatus they used was exceedingly simple, as it comprised an earthen pot, in which a tiny fire was kindled, and a shallow pan for steaming the rice, which is the universal article of food. The low price of labor in India can be readily understood when we bear in mind the simple process of cooking, and the monotony of the bill of fare. From the beginning to the end of the year the only food of the native is boiled or steamed rice, and it is a remarkable fact that he never wearies of it.

A little after seven o'clock the train stopped at Mokameh station, and



SCENE ON THE RIVER.

the conductor or guard came to tell the strangers that they would find breakfast there if they wished it, and could have a more substantial meal at Dinapoor, three hours farther on. Accordingly they took their *chota hazree* at Mokameh, "just to hold themselves together," as the Doctor expressed it, and when they reached Dinapoor they had good appetites, that quickened their steps to the table.



BOATMEN ASHORE.

Occasionally the course of the railway took them near the Ganges, and at some of the points where they reached it the river was full of animation. Boats were moving on the water or tied up to the banks, and in the latter case the boatmen were gathered in picturesque groups along the shore. Some surrounded the cooking-pots, and others were assembled in front of the little shops where rice for their use was retailed. All were lightly dressed, and it was evident to the boys that the outlay of a Ganges boatman for clothing was not very heavy.

The boats were of a pattern different from any the boys had yet seen. They were sharp at the ends, rising out of the water at an angle of forty-five degrees, and the most of them had the bow and stern exactly alike. A house of woven palm-leaves and with a thatched roof was built over the centre of each boat, partly for protection to the cargo and partly as a sleeping-place for the crew in bad weather. The sails were of coarse cloth or matting, and when a boat was in motion the ends of

the cords that controlled the position of the sail were held by a man who sat near the steersman. Some of the boats had railings around the roof, to keep the men from falling overboard, while others were without that protection. It is dangerous to fall into the river, as the crocodiles are numerous, and have a fondness for breakfasting on a slightly-dressed Hindoo.

As they passed the town of Arrah the Doctor called the attention of the boys to a wonderful defence that was made by a few Europeans and fifty Sikh soldiers during the Mutiny of 1857. As the rebels advanced, the party, numbering less than sixty, took refuge in a storehouse, and for

COOKING BREAKFAST.

a week they successfully defended themselves against more than 3000 sepoys, who were armed with muskets and two small cannon. A steady fire was kept up night and day, and it is a remarkable fact that not a man of the defending party was killed, and only one seriously wounded. At the end of the week the rebels were driven away by a column of troops from Calcutta. Near this town the river has changed its course; it formerly flowed in front of Arrah, but is now twelve miles away from it.

While they were riding along in the train the boys proposed, with the approval of Doctor Bronson, to write a history of India. "We will not make a long one," said Frank, "but enough to let those who read our letters know something about the country and what it has been."

"Yes," responded Fred, "and we'll divide the work, as we did in the case of Marco Polo and of Cochin-China."

"An excellent plan," the Doctor suggested: "one of you may tell about India under its native rulers, and the other can write of the conquest by England and the sepoy rebellion. You will thus avoid conflicting with each other's accounts."

Then the youths held a consultation, and agreed upon the division of labor. We shall see by-and-by what was the result.

About three o'clock in the afternoon the train halted at a station called Mogul Serai, where our friends were to change carriages for Benares. A branch line seven miles in length runs from Mogul Serai to the bank of the river opposite Benares, so that in less than half an hour from the time of leaving the through train Doctor Bronson and the youths were in front of the Holy City. The East Indian Railway Company constructed its line with as few curves as possible; and instead of bending it in order to serve the principal cities in the valley of the Ganges, it connects them, where necessary, by branches. Thus there is a branch from the main line to Benares, another to Agra, another to Delhi, and another to Moorshedabad. Doctor Bronson was told by one of the officials of the company that the plan had worked to their entire satisfaction, and they were confident it had materially reduced the expenses of management and the running of the trains.

The Doctor had telegraphed to the principal hotel of Benares to have a carriage at the station, and, as soon as the train stopped, the runner of the house sought them out and presented a card from his employer. The baggage was soon arranged, and in a few minutes the boys were on the bank of the Ganges, and looking at the curious line of temples and bathing-steps that form the water-front of Benares.

CHAPTER XXIX.

SIGHTS IN BENARES.—THE MONKEY TEMPLE.—SARNATH.—BUDDHISM.

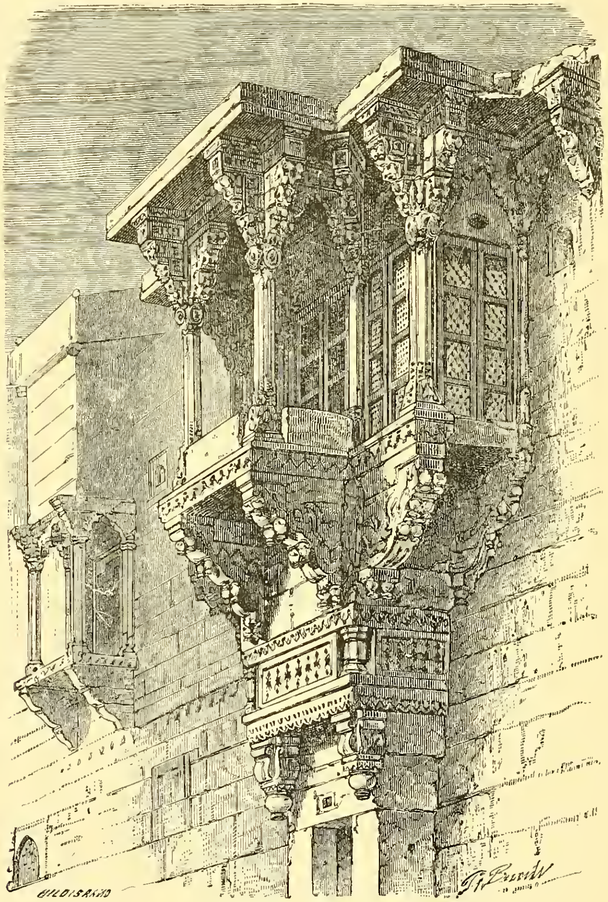
THEY crossed the river on a bridge of boats, and the Doctor informed his young companions that in times of high-water the boats are removed, for fear they may break away and be lost, and the crossing is made by means of a ferry-boat. The front of the city along the river is about three miles in extent, and as one looks at it from the other side there is an almost unbroken view of temples, towers, minarets, palaces, and ghauts, or broad stairways, leading down to the water. The river is about fifty feet deep by 2000 in width, and in time of flood rises thirty or forty feet and increases its width to fully half a mile. The city is on a cliff seventy or eighty feet above the river, and the ghauts rise from the edge of the stream to the crest of the cliff; they were originally magnificent structures, but are now broken in many places, in consequence of the washing away of their foundations.

The buildings that rise on the summit of the cliff are of many styles of architecture, as they owe their origin to several different centuries and epochs. Many of them are spacious palaces, erected by wealthy princes who came here occasionally to bathe in the sacred river and wash away their sins. They are interspersed with temples and mosques, and altogether they present a magnificent panorama. An American traveller has given a fine description of the front appearance of Benares in the following:

"When it is recollected that the buildings above are a hundred feet or more long, and four or five stories high; that the ghauts are eighty feet in height, and are themselves constructions of which any city might be proud; that this row of palaces, temples, and ghauts extends for two miles along the river bank, worthily terminated by the mosque of Aurengzebe, with its graceful minars, and the whole scene was lighted up by an Eastern sun, bringing out the gaudy colors of the dress of the people and the gilded ornaments of the mosques and temples, the reader may perhaps understand and pardon the enthusiasm excited in me by the

splendid architectural effect of this river front, which cannot be paralleled or surpassed by any similar scene in India, or in the world."

They had a long drive to the hotel, as the quarter where the Europeans live is nearly four miles from the end of the bridge of boats. The ride took them through a part of the Hindoo city where they had an



A WINDOW IN BENARES.

opportunity to study features of architecture that were new to them. Frank was attracted by the elaborate carving of some of the windows, and the Doctor explained to him that he was now for the first time coming in actual contact with Saracenic art and its combinations with certain Hindoo forms. Fred attempted to count the temples and shrines they

passed on their way, but soon gave it up, on account of their number; he was not at all surprised to learn that there were nearly 1500 temples in Benares and 300 mosques, or, to be exact about it, 1454 of the former and 272 of the latter. They passed crowds of natives in white or gay-colored garments, encountered an elephant in a part of the road where there were shade-trees, against which the huge beast was brushing his back as he walked along; they drove near several handsome bungalows where the wealthy Europeans reside, and finally reached the hotel, where they were welcomed by the English proprietor and his native wife.

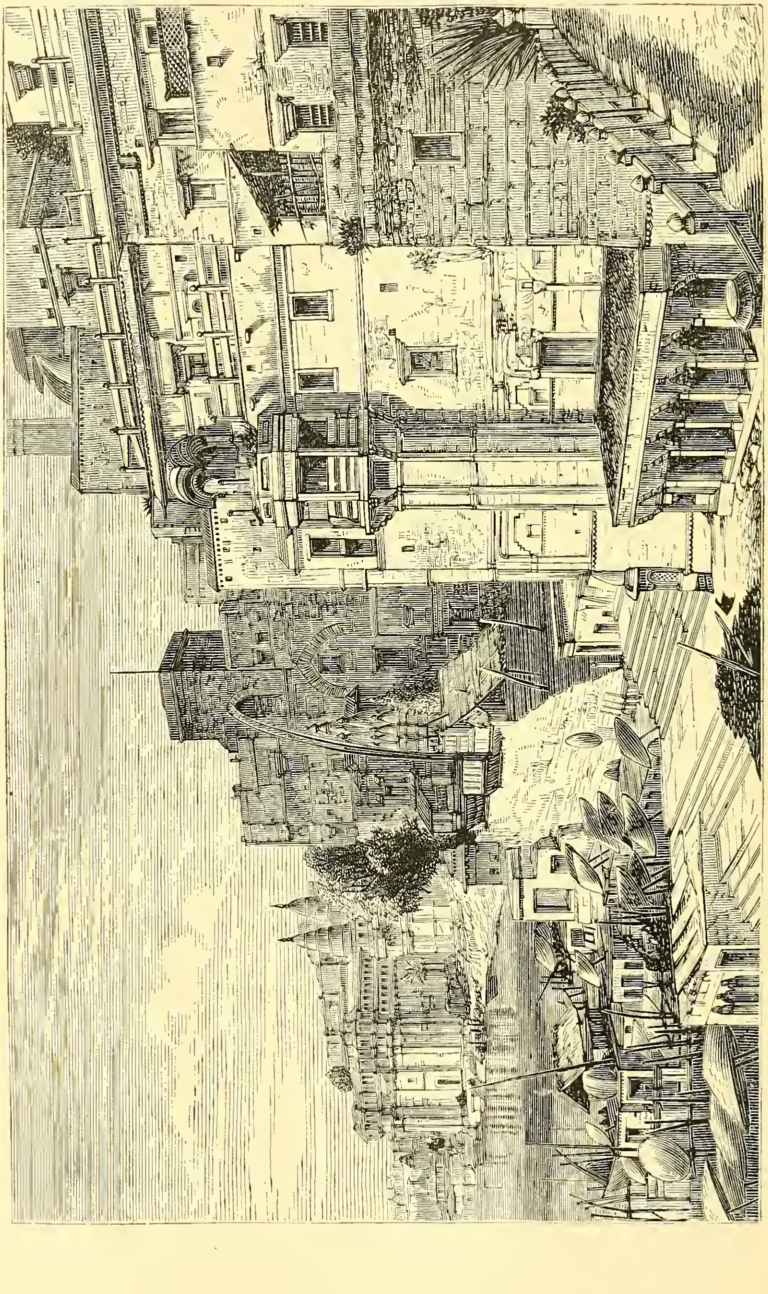
There was only time for a short stroll before dinner, and after that meal was over the plans for the morrow were arranged. What was done by the youths in their excursions in Benares is best told in their own words, in their next letter to America:

"Sight-seers in India must rise early. We engaged a guide, who was recommended by the hotel-keeper, and proved to be a very good one, and his first bit of instruction was that we must be ready to leave the hotel an hour before daylight, in order to see the bathers at sunrise. Accordingly, we went to bed very early, and were ready for the guide when he came for us. The morning was frosty, and we shivered in our overcoats till the sun came up and warmed the atmosphere.

"We had a drive of something more than half an hour to reach the upper end of the city at a place called the Dasasahmed Ghaut. Here we left the carriage, and took a boat that had been engaged by our guide; the carriage was sent to meet us at the lower end of the city, and we were ready to float down the stream in front of the temples. This is a very good arrangement, as the boat goes slowly along, and whenever there is anything to be seen which requires a landing it can be easily brought to the shore.

"Before starting on our boat journey we stepped aside a short distance to see the famous Observatory of Benares. There is a tall flag-staff close by it, and the guide says that the flag waving from it is to indicate that this entire ward of the city belongs to the Rajah of Jeypoor, and that the observatory was erected by his ancestor, Rajah Jay Singh, about the year 1693. The observatory is now very much out of repair, and several of the instruments cannot be used at all. They claim that the Hindoo almanacs are made from the observations taken here, but it is more probable that they help themselves from almanacs of European make.

"The most of the instruments are of stone, and the guide explained their uses; but, as we are not learned in astronomy, we could not make



PART OF THE WATER FRONT OF BENARES.

much out of them. We went from the observatory to our boat, and then began our wonderful voyage before Benares.

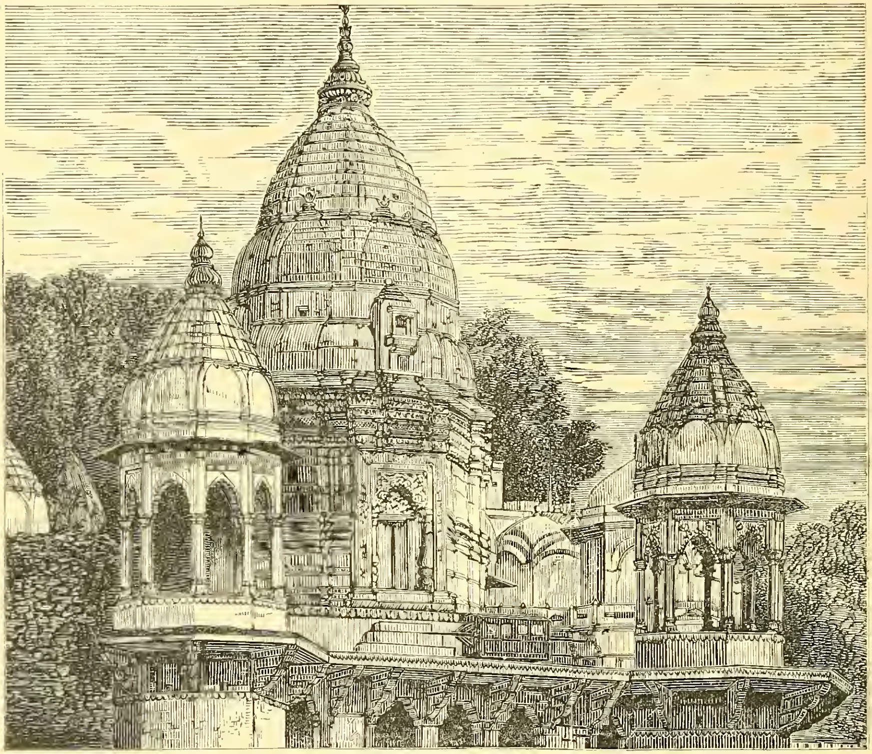
"We passed in front of the burning ghaut, where three or four bodies were undergoing cremation. Evidently they are not as particular here as at Calcutta, as one of the men in charge of the business threw into the river, while we were passing, a lump of charred flesh that must have weighed several pounds. The sights were the same as at Calcutta, and you can easily understand that we did not stop the boat for a moment. The guide told us that they used to burn widows with their dead husbands at this ghaut, but it was not allowed any more, and had not been in his time. We asked how it was done, and he said the widow who had determined to be burnt was dressed in her finest clothes, and when the funeral pile was ready she lay down on it by the side of her husband, and was tied there with ropes so that she could not get away. Then the eldest son of the dead man came forward with a torch and applied it to the pile, which had been saturated with oil so as to make it burn quickly. As the flames arose the crowd raised a great shout and noise of drums and tom-toms, which they pretended was in honor of the heroism of the woman, but was really intended to drown her cries at the terrible pain of being burnt to death.

"The priests used to say that the woman who thus gave herself for a sacrifice would have 30,000,000 of years in paradise, while if she refused she would not get there at all. Before it was stopped the practice prevailed quite extensively; between the years 1815 and 1826, 7154 cases were officially reported, and there were more than twice that number that the Government never heard of. The laws of India are very severe upon it, and any person who takes part in a suttee or widow burning is liable to be tried and punished for murder in the first degree.

"To prove what he said about widows having been burnt here, the guide pointed out several slabs like gravestones, which had been erected to their memory, and it was said the women were burnt on the spots where these monuments stood. He said there were hundreds of them altogether around the various ghauts of Benares.

"We landed at the Manikarnika ghaut to see several things of interest, and among others the holy well which is said to have been dug by Vishnu, one of the Hindoo gods. Thousands of pilgrims come to see it every year, and it is said to have the property of bringing immediate forgiveness for every crime, no matter what its character, to any one who washes in its water. The water has a disagreeable smell, but this does not deter the pilgrims who come to it; there is a flight of stone steps on

each of the four sides leading down to the water, and these steps were placed there, according to the tradition, by Vishnu's own hands. Close



TEMPLE AT MANIKARNIKA.

by the mouth of the well are several altars where the pilgrims place their offerings; and if any of them are worth taking, they are carried away by the priests as soon as the worshipper's back is turned.

"The steps of the ghaut were crowded with pilgrims who had come there to bathe, and to say their prayers to the rising sun. The sun was just coming above the horizon as we reached the ghaut and paused to look at the multitude. There were many groups scattered along the ghaut, some of men and others of women, and they showed by their manner that the occasion was a solemn one. They left their heavy garments on the steps farther up, and walked down to the water's edge, clad only in white robes, and repeating their prayers as they went along. Some paused on the steps and stood motionless before small idols, and

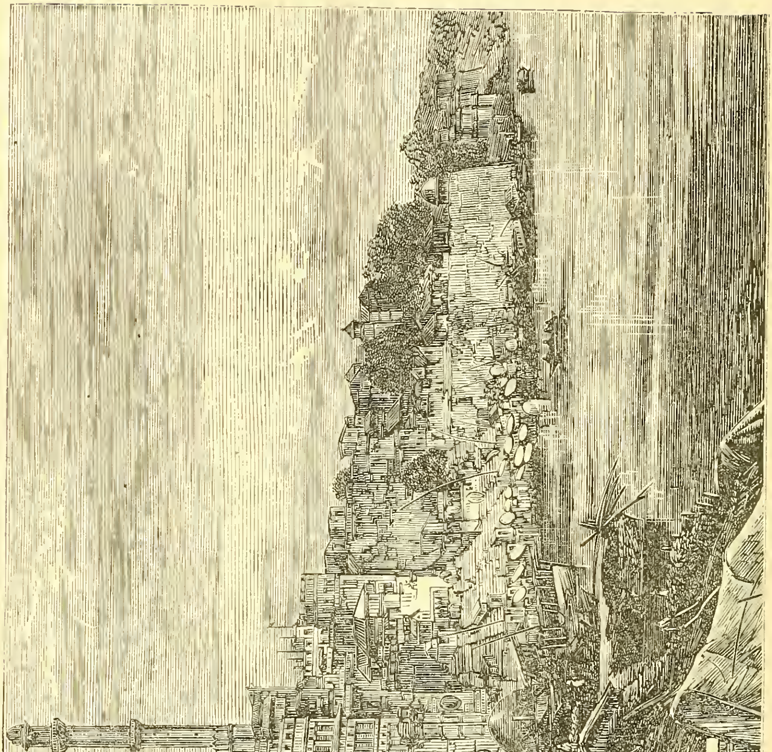
others, too poor to bring idols, placed little heaps of mud on the steps and worshipped them instead. They brought bunches of jasmine and other flowers to sprinkle on the steps and in the Ganges, and though the morning was frosty, and the water must have been cold, not one of them shivered in the least on entering the sacred river.

"There is a curious stone here which is said to bear the impression of Vishnu's feet; of course it is highly venerated, and is visited by every pious Hindoo who comes to Benares. There are temples and shrines all around here, and every foot of the ground is holy in the eyes of the natives. One of the temples contains a figure of the god Ganesh; he has three eyes and a trunk like an elephant, and when he goes about he is supposed to ride on a rat.

"We passed ghaut after ghaut, and saw thousands of pilgrims and residents taking their morning bath, and finally came to the mosque of Aurengzebe the Great. At its foot, as at many other points along the bank, there were dozens of great umbrellas, under which the priests sit to give absolution to the faithful who are willing to pay for it; the umbrellas protect them from the sun, and at a little distance they resemble enormous mushrooms. We asked the guide if there were any accidents in bathing; he said a few persons were drowned every year by getting beyond their depth, and once in a while a crocodile came and carried away somebody. He told a story we had heard before, that a thief who was an expert swimmer once fixed up the skin and head of a crocodile so that it was a very good counterfeit; he would swim around near the bathing place and watch his chance to drag some of the women under water, where he drowned them for their gold and silver ornaments.

"Every day one or more would be taken away, and the fear of the crocodile was great. But one time there came along a real crocodile, who ate up the counterfeit; the dried skin and head were found a few miles farther down, and then it was found how the murders had been perpetrated.

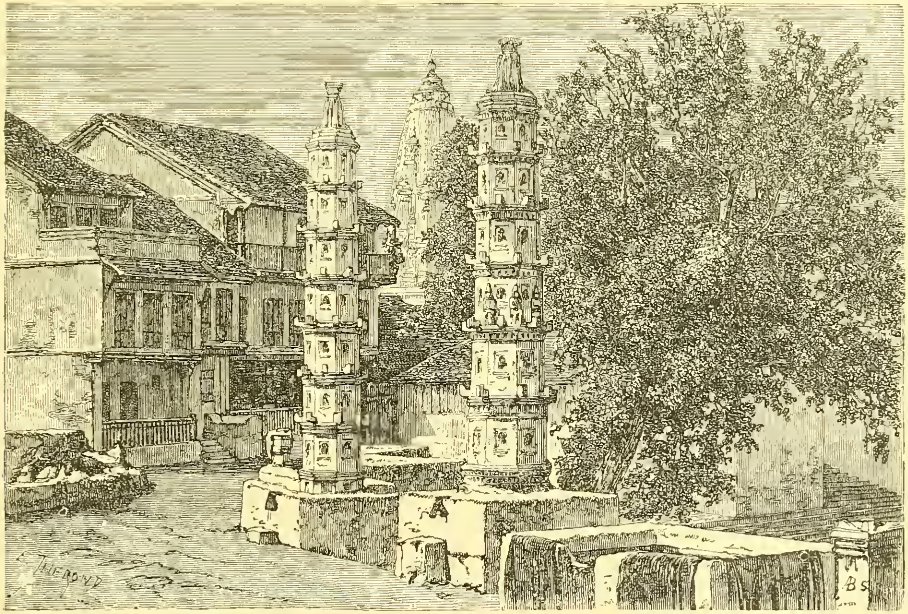
"As we walked in the crowds we thought they were very respectful, as they made way for us wherever we went; we afterward learned it was not respect, but fear of pollution, that made them move out of our path. You must remember that nearly all the people we see are pious pilgrims, who have come long distances to worship at the shrines of Benares, and have a cordial hatred for our race and color. As our guide walks along in front of us he says something to the people in Hindostanee which, of course, we do not understand; we are told that he warns them to get out of our way, so that they will avoid being polluted by our touch!



MOSQUE OF AURENGZEBE THE GREAT.

"We went inside the mosque, but did not climb to the top of the minarets, from which there is said to be an excellent view of Benares and the country around it. The mosque is identified with the history of Benares, as it dates from the time the Mohammedan rulers of Northern India captured the city, destroyed nearly all of its Hindoo temples, and built their own places of worship from the ruins. The mosque stands on the site of an ancient Hindoo temple, and after the Hindoos came in possession of the city again they allowed the building to remain, though it might have been expected that they would tear it down. The Mohammedans make very little use of the mosque, and of all the 400,000 inhabitants of Benares there are less than 40,000 who adhere to the religion of the Prophet of Mecca. There is nothing remarkable about the building except the minarets, and we only remained there a few minutes.

"We went into several Hindoo temples, where sacred cows and bulls were walking about as though Benares belonged to them, which it really



A STREET NEAR THE GREAT MOSQUE.

does. They are respected and worshipped by the people and never molested, and the result is they go around as they like, and help themselves wherever there is anything to eat. The merchants of grain, rice, and meal find them a great nuisance, as nothing can be left in their reach that they

do not seize upon immediately; it must shake the faith of the merchants sometimes when they think what thieves their gods are, as represented by these prowling cattle, and how ready they are to rob anybody without regard to his wealth or poverty.

"We got back to the hotel in time for a late breakfast, and in the afternoon made an excursion to the temple of the goddess Durga, which is popularly known as the temple of the monkeys. There were hundreds of monkeys all around the temple, and they are regarded as gods in spite of their thievery and the trouble they cause in the neighborhood. As we came up to the temple the monkeys scampered toward us from every direction, as they know that the arrival of strangers is pretty certain to procure them something to eat. Two or three grain peddlers were near the front of the temple, and we bought a shilling's worth of grain, which was scattered on the pavement for the monkeys to eat. They fought over it in a very undignified way, which did not increase our respect for them, and as soon as they found they would get nothing more they clambered to the tree-tops or up on the roofs, where they had been sunning themselves.

"These monkeys do a great deal of mischief, by robbing gardens and other depredations, and we are told that they organize raids, and sometimes go two or three miles in bodies of fifty or a hundred for purposes of robbery. They became so bad a few years ago that one of the magistrates, who did not wish to offend the natives by killing their deities, had a great number of these monkeys put into cages and carried off to the jungle; but they seem to be about as numerous as ever, and quite as regardless of the rights of human beings as monkeys generally are.

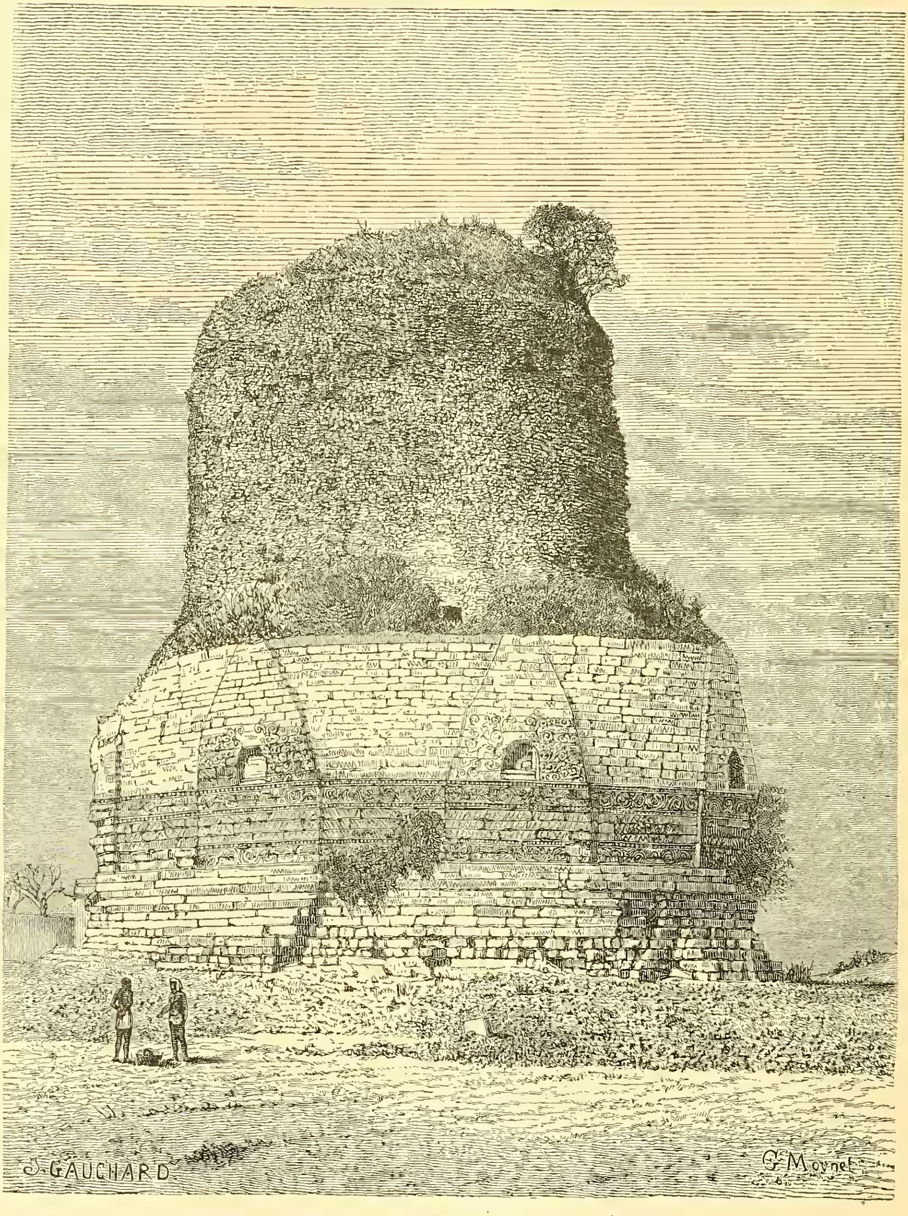
"Doctor Bronson had a letter of introduction to Doctor Lazarus, the agent of the Maharajah of Vizanagram, a native prince who owns a very large estate in and around Benares. The maharajah is on pleasant terms with the English, and with all foreigners who come properly introduced, and likes to show them attentions. We called on Doctor Lazarus before going to the Durga temple, and had a pleasant interview with him; and after we had seen the temple we went to the palace of the maharajah and looked through it. The next morning the Doctor sent us an elephant for a ride through Benares, and we had a delightful excursion of a couple of hours.

"Elephants are used here for a great many purposes, but they are forbidden to move about the streets of Benares, except in certain hours, because of the accidents arising from the frightening of horses. Horses have an unaccountable fear of elephants and camels, as we saw repeat-

edly, and on two or three occasions we narrowly escaped being thrown from our carriage by the 'shying' of the horses when passing an elephant. The elephant we had was a stately old beast who would not go faster than a walk, and the fact is we were quite satisfied with that pace. He came very near brushing us off as he went under the trees, and once the howdah where we were seated was brought against a limb so forcibly that for a few seconds we thought we should be spilled out. However, we got safely back to the hotel, and gave a liberal backsheesh to the *mahout*, or driver, who had piloted us on our novel excursion.

AN ELEPHANT RIDE.

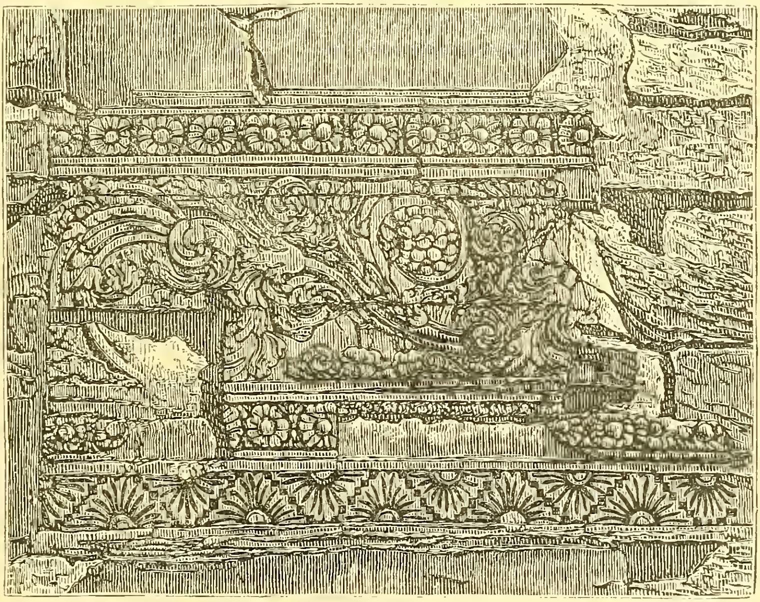
"In the afternoon we went to Sarnath, where the founder of Buddhism is said to have commenced the meditations which resulted in the religion that has more followers than any other in existence. The ruins consist of two towers, about half a mile apart, and the foundations of several buildings which are thought to date from the time of Buddha, or from the century following his death. According to some Chinese writers, who visited Benares in the fifth century of the Christian era, there were formerly several buildings and towers here, and they showed the



BUDDHIST TOWER AT SARNATH.

tank where Buddha bathed, and another where he washed his clothing; on the bank of this last tank there was a flat stone that showed the marks of the cloth where it was spread out to dry, but we couldn't find either the stone or the tank.

"Of course we looked at the tower, which is very much in ruins, and has bushes growing on the top and in various places on the sides. There is nothing remarkable about the structure except in its historical associations, and we didn't stay there long; but we have since read the description of the ruins of Sarnath, and the account of the excavations made there. The tower is 110 feet high as it stands at present, and ninety-two feet in diameter at the base, and where the outside stone has not been torn away there are some fine sculptures. They represent flowers and scroll work, and were evidently done by an accomplished artist. The lotos flower is represented more frequently than anything else, and as the lotos was the emblem of Buddha, the sculpture shows that the tower



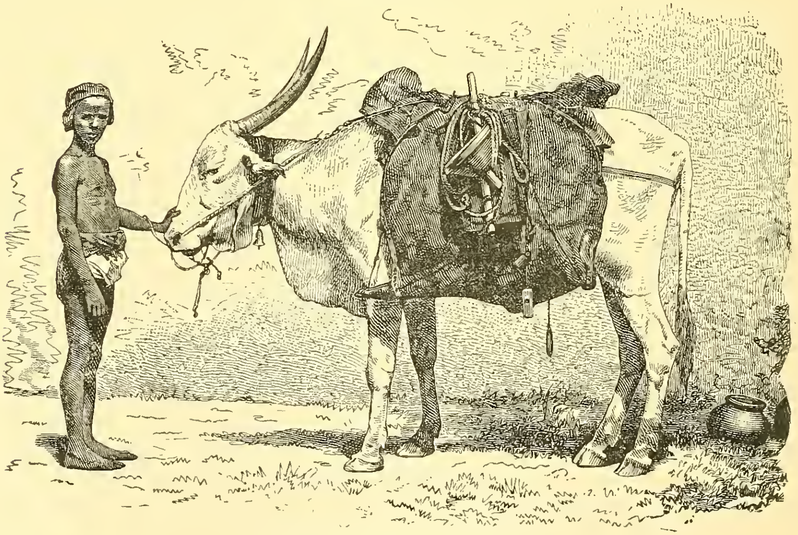
CARVING ON THE TOWER AT SARNATH.

was erected in his honor. There are niches for statues on the sides of the tower, and it is supposed that they once contained the figures of the great preacher, in the sitting posture so common in the Far East.

"Anybody who wishes to know more about Benares and the ruins at

Sarnath than we are able to tell him, can find what he wants in a book called 'The Sacred City of the Hindus,' by Rev. M. A. Sherring. The author lived a long time in Benares, and has made a very interesting volume.

"Doctor Bronson says there is a curious parallel in the histories of Buddhism and Christianity—that neither of them is the religion of the city of its origin. Benares was the sacred city of the Bramins before Buddha was born, just as Jerusalem was the sacred city of the Jews. In each city a new religion was developed, and missionaries went out to instruct the people; Buddhism was finally driven out of Benares in much the same way as Christianity was expelled from Jerusalem. Buddhism does not exist at Benares to-day, nor has there been more than a trace of it for the last thousand years; the Braminism that followed its expulsion was worse than that which preceded it, and consequently India gained nothing at all by the reformation."



WATER-BEARING OX AT BENARES.

CHAPTER XXX.

BENARES TO LUCKNOW.—SIGHTS IN THE CAPITAL OF OUDE.—THE RELIEF OF LUCKNOW.—KAVANAGH'S STORY.

AFTER the foregoing letter was completed our young friends devoted another day to sight-seeing in Benares in company with Doctor Bronson. They went through the narrow streets, where it is impossible for carriages to circulate, and were jostled by the sacred cattle that frequently blocked the way; the pilgrims gave them a wide berth for the reasons already stated, but the animals were not so particular. They saw temples and shrines in great number, and readily accepted the statement

A JEWELLER OF BENARES.

that Benares was wholly given to idolatry, and was the holiest city of India in the eyes of the natives. They gazed upon the devotees that

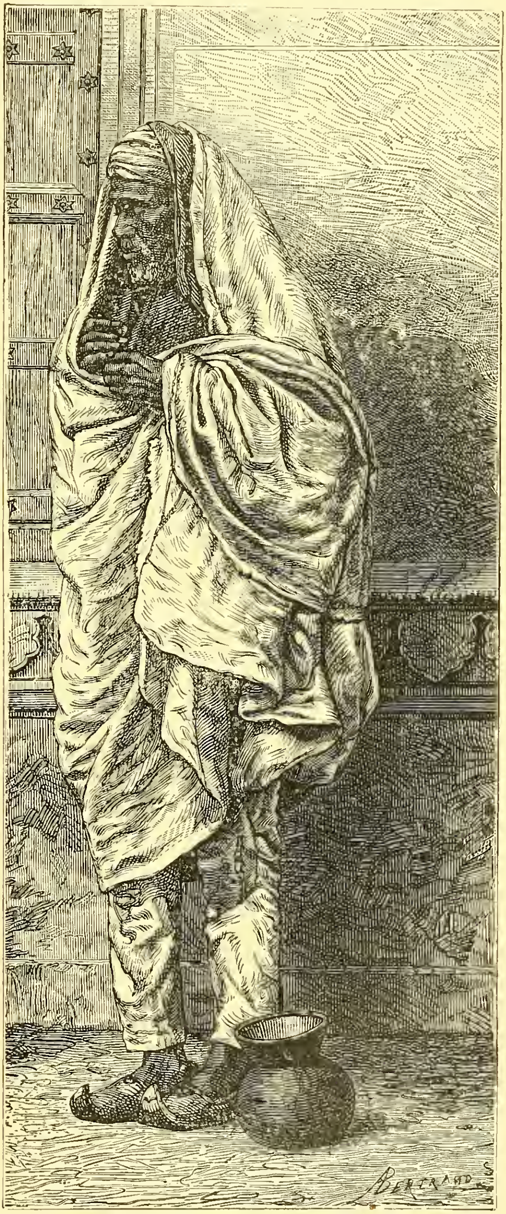
thronged the streets and crowded to the bank of the river, and now and then saw a dying Hindoo who was being carried to the ghauts, that he might breathe his last with his eyes fixed on the sacred stream.

Frank had heard of the fine shawls, jewellery, and beautiful brasswork of Benares, and, with the last letter of Mary and Miss Effie in his mind, he was impatient to visit the bazaars where those things were sold. But there arose a difficulty in inducing the guide to show them the shops devoted to brasswork; the hotel had a salesroom for the same material, and the proprietor naturally regarded his patrons as his particular prey, especially as his prices were much higher than those of the city merchants. The guide finally said he was not allowed to conduct strangers to any shop other than that of the hotel, and accordingly his services were dispensed with, and the Doctor undertook the office of guide with very fair success.

There is no part of the world where one finds a more perfect system of making money out of the patron of a hotel than in India. Only those peddlers who pay a commission to the proprietor or manager are allowed to enter it, even to deliver goods that have been bought outside; and sometimes the manager requires all payments for purchases to pass through his hands, so that he may know the proper amount of his "squeeze," and secure it on the spot. The writer constantly came in contact with this custom during his travels in India, and on several occasions it was managed so openly that a blind man could hardly fail to see it. At the hotel in Delhi the manager stood by to witness transactions between peddlers and strangers, and when he was called away for a brief period he coolly asked if anything had been bought in his absence, and how much was paid. On one occasion the commission was handed over without the least attempt at concealment, and on another the payment was made behind a screen, and so near that the chink of the coin was plainly heard. Some of the hotels farm out the privilege of selling goods under their roofs for a fixed annual sum, and allow no peddlers other than the contracting ones to enter, while others give entrance to everybody, and require a commission on the sales. The same custom prevails in other parts of the East, and it is safe to assume that all goods bought in a hotel will be from twenty to fifty per cent. dearer than if purchased in the bazaars or public shops.

Benares brass-ware is in great variety, and our young friends were so delighted with it that they bought liberally. It consists of trays, plates, cups, goblets, vases, and kindred things that are chased with various designs of scroll-work, flowers, animals, deities, and other describable

and indescribable things. The trays and plates are sold usually for about three rupees a seer—two pounds avoirdupois—and the goblets, mugs, and vases have a price by the piece or pair for which no exact figure can be laid down. The cheapest mugs cost a rupee each, and the goblets five rupees a pair. Then there are many varieties of idols in brass and bronze, and the visitor to Benares is pretty likely to secure a few of them to show his friends at home what the Hindoo idol is like.



A PIOUS PILGRIM.

The shops for shawls and cloths embroidered with gold and silver had a good many tempting things displayed to the best advantage; Frank bought a couple of the smallest of the shawls, and reserved himself and his money for further efforts in that line at Delhi. The Doctor told him the shawls were not made in Benares, but came from other cities, many of them from Delhi, whither they were going. He further explained that the manufactures of Benares were not at all numerous, and the city derived its principal income from the hosts of pilgrims who come every year to worship at its shrines.

The boys discovered that the holy pilgrims were not only in constant fear lest

they should be contaminated by the touch of a European, but they would not even allow his shadow to fall on them or on the food they were cooking; the Doctor said that if such an accident should happen to a Hindoo's dinner it would be thrown away, and the pot in which it was being prepared would need a vigorous scouring to fit it for further use. But

RELIGIOUS BEGGARS AT BENARES.

while they had such a dread of a white man's shadow they had no fear of his money, and would handle all he gave them without the least hesitation. They constantly saw the pilgrims begging in the streets, and were importuned by them; Frank thought some of the beggars made themselves comfortable, as they were seated in couples on a frame like a small

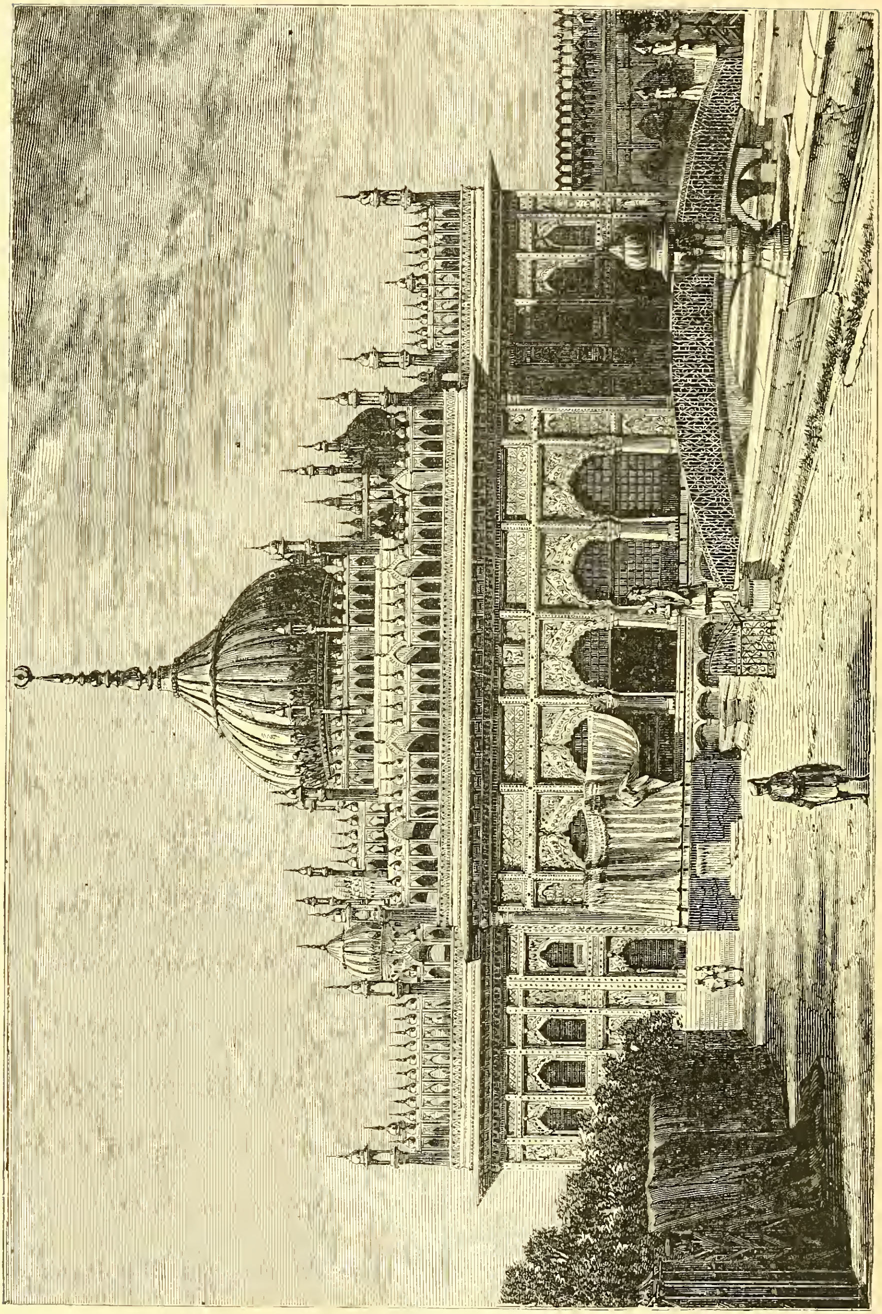
bedstead in little nooks and corners where it was impossible to pass without going near them. Others stood against the walls under the shadow of the buildings, and others were seated at the roadside, and besought every passer-by to give them something. The boys tried them with small coins, and soon found that, while they feared pollution from everything else belonging to the European, they were not troubled about his cash.

From Benares our friends proceeded to Lucknow by the Oude and Rohilcund Railway; it is a distinct company from the East Indian Railway, but runs in harmony with it and serves to bring it a good deal of business. The distance is 199 miles, but so dignified is the pace of the trains that the journey from Benares to Lucknow consumes nearly twelve hours. The equipment has an appearance of antiquity, and Frank said that if the railway had been in existence in the time of Aurengzebe, he could readily believe the great conqueror had travelled in their carriage. But as the road took them through in safety he did not complain, nor did his companions, since they realized how much better the worst railway is than no railway at all.

It was evening when they reached Lucknow, so that there was no opportunity for seeing the place until the following day; the hotel where they stopped was a curious structure originally built for a wealthy native, and very badly designed for the home of Europeans. The rooms were strangely connected, that of Frank having no less than six doors, opening into as many halls and rooms; the locks were very much out of repair, and it was evident that any enterprising thief might do pretty much as he liked among heavy sleepers. The dining-room was two stories in height, and warmed by a small stove which just served to make the cold perceptible; the kitchen was a long way from the dining-room, and nearly everything was chilled through by the time it reached the table.

Bright and early the next morning the three were out of their beds and ready for a tour of the place. They drove to the most famous buildings of Lucknow, and were shown through them by the custodians or by the guide that accompanied them from the hotel, and in a little while their heads were full of palaces and Oriental gold and glitter, till Fred thought he would have a good deal of difficulty afterward in remembering "which was which."

The most gorgeous of all the edifices they saw was the Imambara, and they spent twice as much time in it as in any other. It is considered the finest of all the palaces of Lucknow, and its reputed cost is a million pounds sterling. The story is that it was begun in a time of famine to give employment to a starving population, and its construction required



THE IMAMBARA AT LUCKNOW.

nearly ten years. It was not finished till 1783, so that it is quite modern by comparison with other public buildings of Lucknow. The king who built it invited architects to compete for the design, and stipulated that it should not be a copy of any existing building, and should surpass in beauty anything of the kind ever built. At the time of the capture of Lucknow the English troops destroyed a large part of the interior decorations, and since the reoccupation of the city the Imambara is used as an arsenal.

It stands on a hill overlooking a considerable extent of country, and the visitor who climbs to the top has the greater part of Lucknow at his feet. There is a large court-yard in front of it, and this yard is adorned with mosques and other Moslem structures, and also a miniature lake in the centre, with a bridge over it. There is very little wood-work about the building, and it was evidently the intention of the architect and the king that the Imambara should stand unharmed for centuries.

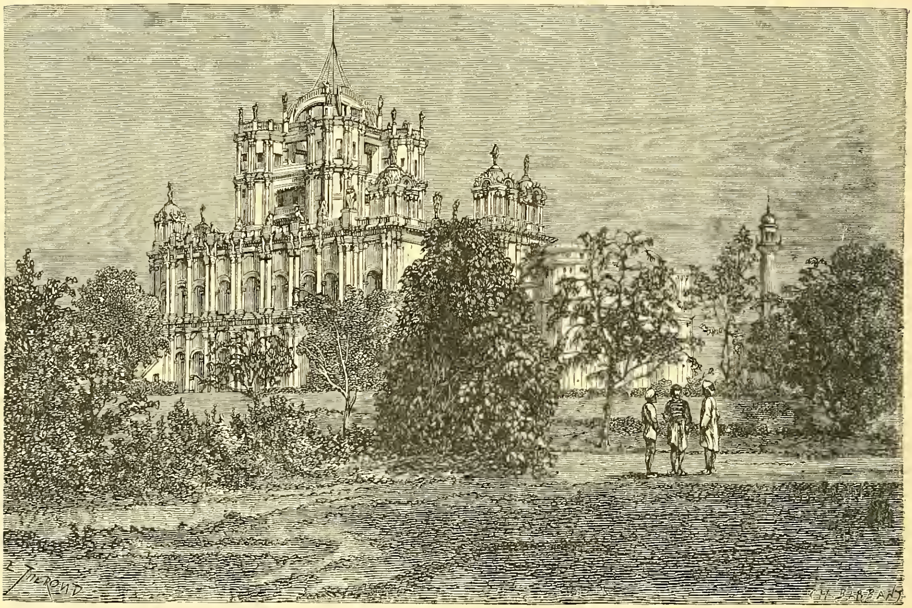
Frank and Fred confessed their inability to describe the building in words, and wisely purchased photographs to enclose to their friends, as the easiest way out of the difficulty. "But the photograph can't show the size of the building," said one of the boys, "and so we must make a few notes." They did so with the following result:

Length of Imambara	303 feet.
Breadth "	163 "
Height "	63 "

"The central room," said Frank, "is 163 feet long by 53 wide, and it is 49 feet high, with walls 16 feet thick. Then there is an octagonal room 216 feet in circumference, with walls of the same thickness as the other room, and it is 53 feet high in the centre. If this doesn't take away your breath you may think of another room, 54 feet square, and the same in height, and you must remember that this whole building was finished with stone carving, as though it had been intended for ornamenting a parlor."

Then they went to the *Martiniere*, a fantastic building, constructed by General Claude Martine, a French adventurer, who came to Lucknow toward the end of the last century and entered the service of the king. He had nothing when he arrived, but, by careful management of his money and his influence with the king, he was worth a million or two of dollars at the time of his death in 1800. He built this house as his own residence and in his own way, and the building is said to combine more styles of architecture than any other in all India. He was buried

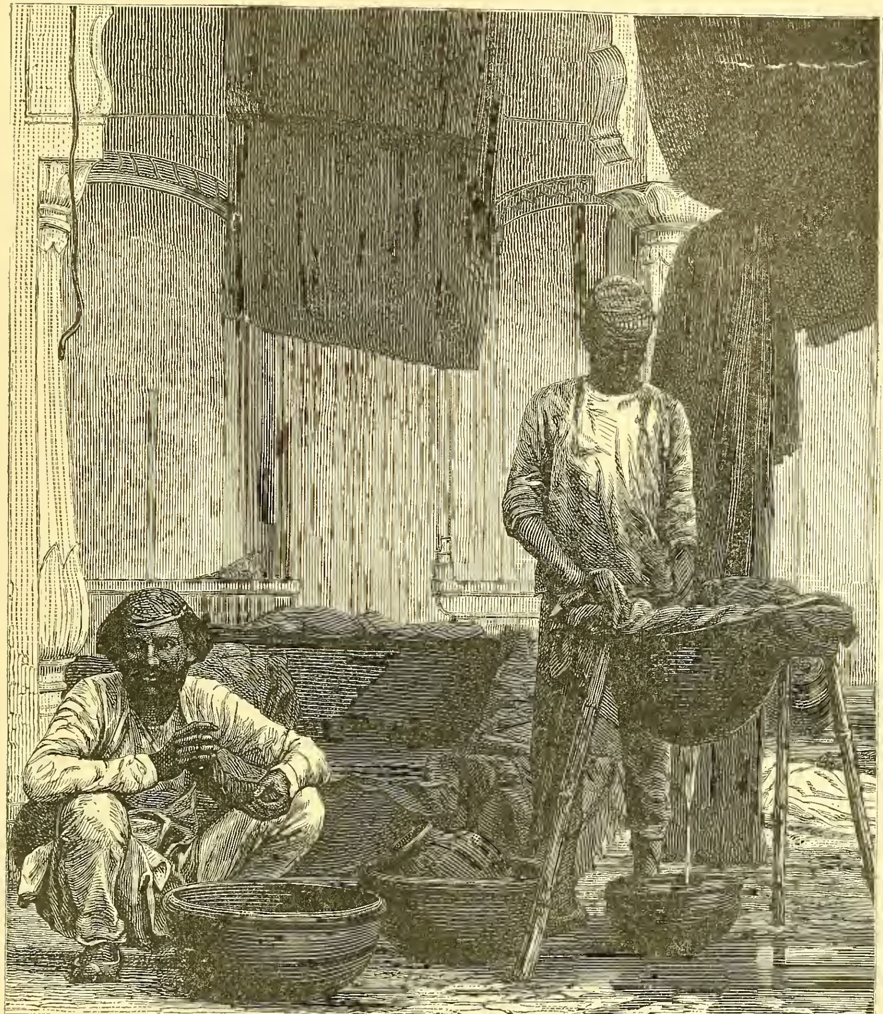
in the house, in a tomb under the central dome. At the time of the Mutiny the rebels opened the tomb and scattered the bones, but some of them were afterward recovered and restored to their resting-place.



THE MARTINIERE.

They drove and afterward walked through the streets of the native city, and were greatly interested in the industries of Lucknow. They passed shop after shop of the jewellers, and saw the artisans busy with their simple apparatus of blow-pipe and a few tools; they had seen the same sort of work at Benares, and were impressed with the skill of the men who need so few tools to accomplish what requires a great many in the hands of a European. Lucknow is famous for cotton cloths in various colors, and the dyers are said to display great skill in their work, and to possess several secret processes in making colors that will hold. They work with a few pots and pans, and the indelible nature of their dyes is said to show itself by giving a tint to their hands that requires weeks of washing and waiting to eradicate.

They had a letter to an American resident of Lucknow, the Rev. Mr. Craven, and in the course of their morning's drive stopped at his office to deliver it. He asked if they had visited the Residency, which was made famous during the siege of Lucknow, and on learning they had



DYERS AT LUCKNOW.

not done so he made a proposition that was received with delight by the trio.

"Postpone your visit to the Residency till to-morrow," said he, "and I will meet you there and endeavor to introduce you to Mr. Kavanagh, the man who went through the rebel lines in the disguise of a native, and piloted the army of Sir Colin Campbell to the relief of Lucknow."

A proposal like this did not require many moments for acceptance. It was arranged that Mr. Craven would meet them at the Residency at seven o'clock to show the points of interest, and, if possible, would have Mr. Kavanagh join them an hour later.

At the appointed time our friends met Mr. Craven, and were shown through the Residency, which is in very nearly the state it was found when Lucknow was captured from the rebels in 1857. There are moss-grown and ivy-twined walls, and the shattered tower rises like a beacon above the tree-tops, as it rose when watchful eyes looked day after day for the relief that finally came from Cawnpore. An artificial mound supports the monument to Sir Henry Lawrence, who fell during the siege, and there are gravelled roads and paths through the shrubbery and among the plots of grass. Small columns of brick mark the positions of the various batteries by which the approaches were defended, and a neat fence encloses the cemetery where the dead of the memorable defence are buried.

Doctor Bronson and the youths were shown the many points of interest in and around the place. Mr. Craven explained that during the siege the underground rooms of the Residency were occupied by some of the women and children; the ground floor was used as a hospital, and the upper rooms were quite untenable in consequence of the shot and shell that poured through them. An officer was always on duty at the top of the tower, or on the roof of the building, with a good telescope, to report the movements of the enemy, and, when relief was expected, to keep a sharp lookout for it. While they were standing in front of the building, a gentleman with a robust figure and a snowy mustache and whisker joined them, and was introduced as Mr. Kavanagh; after a little preliminary conversation the party sat down on the lower step of the monument to Sir Henry Lawrence, and the story of the siege was told.

The rebellion broke out in the early part of 1857, and by June of that year the English were acting on the defensive. Sir Henry Lawrence had thoughtfully gathered large quantities of ammunition and provisions in the Residency buildings, and when the English went there they were well provided with everything except the numbers necessary for the

defence. The original strength of the garrison was 1692, consisting of 927 Europeans and 765 natives; there were about 200 women and children, some of them being families of the defenders and others fugitives from various parts of the province. The distance around the Residency is more than a mile—a long line to hold against a besieging force.

THE RESIDENCY AT LUCKNOW.

The siege properly began on June 30th, and ended the 25th of September, when Sir Henry Havelock and Sir James Outram arrived. They added to the garrison and gave a sense of security, but in one sense their mission was a failure. They were to relieve the garrison and escort it to Cawnpore, but they suffered so terribly in cutting their way through

the investing lines that it was considered injudicious to make the attempt. So they remained, and as they brought nothing with them they drew heavily upon the stock of provisions; the whole garrison was reduced to quarter rations, and relief was anxiously awaited.

In the latter part of November Sir Colin Campbell advanced from Cawnpore in the direction of Lucknow, and word was brought to the garrison by a native spy. Knowing how severely Havelock had suffered in his advance, those who understood the situation feared a similar fate for General Campbell. Mr. Kavanagh said the subject was constantly in his mind, and he became convinced that some one who could give intelligent information must go out to meet the advancing army. "I went," said he, "to Colonel Napier, whom I had known for twenty years, and stated my views. He agreed with me, but did not see how it could be done. He said it would be certain death to any European who undertook it, and no native could be trusted or could give the proper information to General Campbell. I told him I would go, but he laughed at the idea, and said I could never make up as a native. I thought I could, and asked him to take me to General Outram.

"He took me to General Outram," continued Mr. Kavanagh, "and the general was of Colonel Napier's opinion. But I saw he was willing I should go if I would, though he would not give his sanction, nor would he ask me. He said if any one went it must be an unmarried man, and as I had a wife and children I had better drop the idea. I answered, 'My life is endangered every hour, and if I go out and am killed it will only hasten the event. If I succeed I shall save many lives, perhaps all in the Residency, and certainly many of those of the relieving force. I shall go, and leave my family to the care of the British nation.'

"Then I went and borrowed native garments, only one in each place, to avoid suspicion, and in the evening took my bundle to the house of a man I could trust. There I dressed myself, and my friend blacked my face and hands with oil and burnt cork. Then I went to the officers' mess, entered with my shoes on, and sat down uninvited — very rude things for a native to do. The officers commented in English on my impudence and asked me in Hindostanee what I wanted. I replied in the same language that I wished to see Colonel Napier.

"He was called, and I talked to him in Hindostanee, pretending to be a friendly spy from the outside; then I asked for General Outram, and Colonel Napier went to call him. When General Outram came I talked to him in the native language, and then said in English that I thought my disguise would answer, as neither he nor Napier had recognized me.

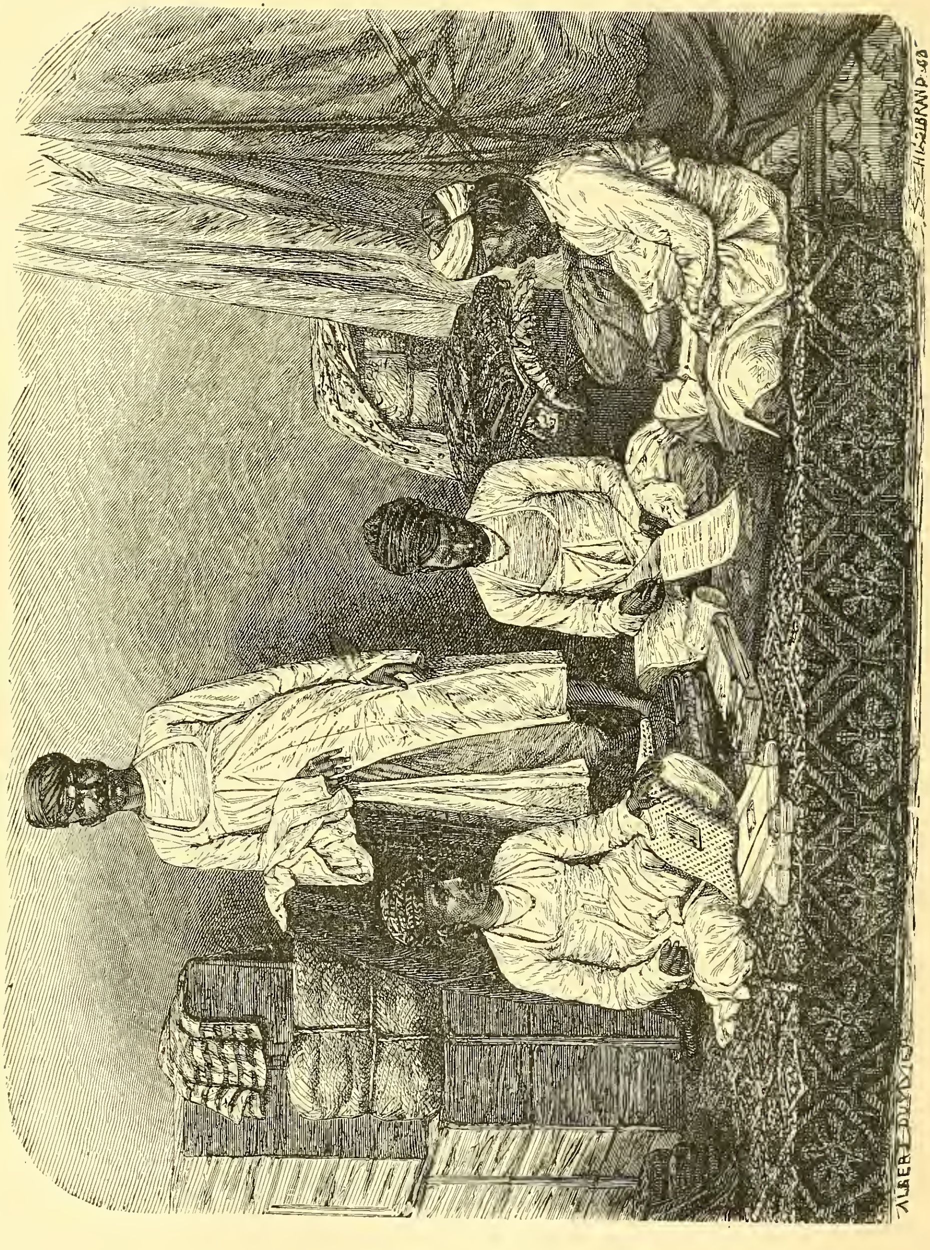
"'Why—it's Kavanagh!' they both said together. They agreed it was a good disguise, and at my request General Outram wrote a letter to General Campbell telling who I was. I hid it in my turban, and, about eleven o'clock, started in company with a native spy."

The pair had many adventures. They forded the river near the Residency, recrossed it by the iron bridge, and entered the city. They were stopped at the head of the bridge by a native officer, who questioned them closely; Kavanagh did the talking, as his companion was greatly frightened, and his plausible story carried them through. In the city the native wanted to go through the narrow alleys and unfrequented streets, but Kavanagh insisted that the middle of the widest street was the safest; he carried his point, and it proved correct. They came to a native picket-guard, and, lest the sergeant might reconsider the matter and recall them, Kavanagh turned back after going a few steps and borrowed a man to show them a short distance on the way. They were again lost, and entered a house close to a camp, where they roused a woman, who told them in a garrulous way, which they encouraged, all about the soldiers in the vicinity, and set them in the proper direction. Again they were lost, and floundered in a marsh, where Kavanagh carried his clothes and other things on his head, and supported his companion, who could not swim. Morning was approaching, the moon was up, and he discovered that much of the blacking was washed from his face, while his hands were nearly as white as before he colored them. He was almost exhausted; had injured his foot severely, and half his clothing was wet. But on he must press to meet the advancing column, and he knew not how far away it was.

An hour before daybreak they met villagers fleeing with what property they could carry, and the spies learned, to their great but carefully concealed joy, that the English were only three miles away. As day dawned they reached one of the outposts of Sikh cavalry, and were halted by an old Sikh, who took the pair to his captain. Just as the sun rose, Mr. Kavanagh, his face streaked and spotted like a coach-dog, was at the entrance of Sir Colin Campbell's tent. The old fellow gruffly demanded who he was, and what he wanted.

"My name is Kavanagh," was the reply; "I left the Residency last night, and here is a letter from General Outram."

General Campbell stood for a moment astonished, and then drew the counterfeit native into his tent, embraced him like a brother, and treated him as tenderly as though he had been a child. At Kavanagh's request he was given a bed, but he was so overcome by his emotions that he could not sleep, and, after tossing uneasily for an hour or more, he



MERCHANTS OF LUCKNOW.

rose and sat down to breakfast with the general. "I had a ravenous appetite," said he; "and they had so many good things that I could not restrain my astonishment. 'Marmalade!' I said; 'have you real marmalade?' 'Where did you get your eggs? And potted meats!—what a luxury!' I went on in this way while the general was asking about the Residency, and the rebels, and the road to Lucknow; and altogether

AN OLD SIKH.

the story was a fragmentary one. Afterward we went over it better, and the general made his plans.

"Officers and men wanted to see me, and I asked if I could take a stroll through the camp. 'Not without me,' said Sir Colin; 'the officers will ask all sorts of questions if you go alone, and then each one will have his plan for entering Lucknow. I propose to do my own planning, and

when you go through the camp you go with me, so that no one can talk to you.' With this arrangement we went through the camp, and satisfied their curiosity to see me.

"When I left the Residency it was arranged that my wife should know nothing of my departure till it was certain that I had succeeded or was dead. Three miles out on the Cawnpore road was the Alumbagh, a fortified garden, where Havelock left his heavy baggage, with a guard of a hundred men. There was a semaphore telegraph there to communicate with the Residency, and I arranged to call at the Alumbagh and have them telegraph my arrival; but I found it so closely invested by the rebels that I could not enter, and so kept straight on to General Campbell.

"When I told him about it he instantly ordered a column of Sikh cavalry to cut their way into the Alumbagh, and have them telegraph that I was safe. All the morning they had been asking from the Residency, 'Has Kavanagh arrived?' The answers were unintelligible, as they knew nothing about Kavanagh; General Outram and Colonel Napier feared I had been killed, and so did the other officers who knew about my departure. All were terribly anxious, and when about eleven o'clock the semaphore spelled out, 'KAVANAGH HAS REACHED SIR COLIN SAFELY,' those strong fellows cried like children, and hugged each other with joy. One of them ran to tell my wife, who rubbed her eyes in astonishment, as she supposed all the time that I was on duty in the trenches. When she knew the story she sat down and cried too."

As he reached this point in the story his voice choked, and the tears stood in his eyes. His listeners were likewise moist in the eyelids, and did not venture to speak. Doctor Bronson kept counting the links of his watch-chain, but could not make them out twice alike, and the boys were looking vacantly at the ground, as though they were not expecting to find anything there. There was a silence of several minutes, and then the music of a military band sounded in the distance, and all raised their heads. Nearer and nearer came the band, and louder grew the sounds. At length an English regiment appeared, crossed the iron bridge over the Goomtee River, and came on and on till it passed close to the Residency. "Let us go and see it," said Kavanagh, and the party rose and walked down the lawn to the roadside.

As the soldiers marched past where they stood, the veteran's eye grew bright and the blood rose to his face; he was ten years younger in a few minutes, and his thoughts evidently carried him back to the days when the sound of the Scottish bagpipes was borne on the Indian breeze, and

Havelock's army came to the relief of the beleaguered garrison. And while they silently gazed on the moving column, with its flashing rifles and waving banners, Frank was conning over in his memory the lines of Whittier, wherein is narrated the story of the Scotch girl at Lucknow, whose ears heard the music of her childhood long before it was distinguished by her companions:

> "Dinna ye hear it? Dinna ye hear it?
> The pipes o' Havelock sound?"

Then they strolled back to the Residency, where Kavanagh told the story of the relief; of the capture of the various rebel positions; the meeting of General Campbell with Generals Havelock and Outram; of the retirement in the night, the march to Cawnpore, the terrible revenge of the British troops on the rebels, and the return of the army in the following spring. And then, with a hearty hand-shake and farewell, he said good-bye, mounted his horse, which a native groom was holding close by, and galloped off toward the city. This was the man who ventured through the closely-drawn lines of 50,000 rebel sepoys, where discovery would have been certain death, and most probably death by torture.

CHAPTER XXXI.

LUCKNOW TO CAWNPORE AND AGRA.—TAJ MAHAL AND FUTTEHPOOR SIKRA.

FROM Lucknow to Cawnpore our friends had a ride of a little over two hours, through a fertile country, which was quite flat and uninteresting—a repetition of the journey from Benares to Lucknow. Cawnpore stands on a level plain, on the right bank of the Ganges, and covers a large area of ground; it would be almost without interest were it not for the terrible atrocities of Nena Sahib and his followers during the Mutiny. A sad prominence was given to Cawnpore in 1857, so that few travellers will care to pass it without looking at the memorials of the events which at one time agitated the whole civilized world.

A couple of hours will suffice for seeing the points of interest; and it happened that the train for the north gave the Doctor and his young companions all the time they needed for the excursion. They engaged a carriage and started at once, and as they rode along the Doctor told in brief the story of Cawnpore.

Nena Sahib was a native prince of enormous wealth; a few years before the Mutiny he had a lawsuit with the East India Company, which was decided against him, and from that time he had the most bitter hatred for the English, though he associated freely with them, and professed the warmest friendship. He entertained them often at his palace, which was filled with European furniture and pictures, and when the rebellion broke out no one supposed he had favored it or would take any part in the hostilities.

General Wheeler, who commanded Cawnpore at that time, was so impressed with the Nena's loyalty that he asked him for a guard of cavalry to protect the treasury, and it was promptly given. The revolt began on the 4th of June: the native cavalry burnt their barracks and buildings near them. The other troops joined them, and then all united with the Nena's soldiers in plundering the treasury. The English gathered in an intrenchment, and on the 6th of June they were attacked by Nena Sa-

hib's troops, the Nena himself taking command, and directing the assault. For three weeks it was kept up, and the sufferings of the English were terrible. Men, women, and children were crowded together in a small intrenchment, with no shelter from the terrible heat of the summer sun, and many of them died of exposure.

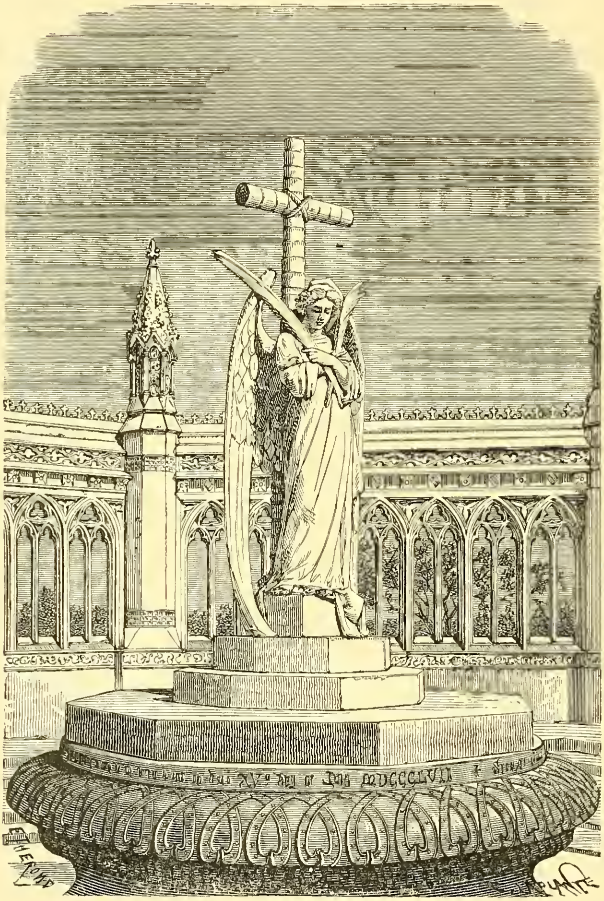
On the 27th of June the attack was suspended for a moment, and a letter came from the Nena offering safe-conduct to Allahabad for the garrison, if it would surrender. The terms were accepted, and the garrison went to some boats that were waiting at the river's bank a mile away. As soon as they were on board it was found that the boats were fast in

LOW-CASTE INHABITANTS OF CAWNPORE.

the sand, and before they could be moved the rebels began firing upon them, and at the same time threw torches on the thatched roofs, which instantly blazed up. Out of two hundred persons in all, only four escaped.

From this time to the middle of July Nena Sahib was master of Cawnpore. He amused himself by butchering all the Englishmen that fell into his hands, and devised the most cruel forms of torture for this bloody work. The women and children were kept prisoners in a building that had formerly been an assembly-room, and on the night of the

16th of July, when it was found that Havelock's troops were advancing, and the rebel army was being defeated, the order was given for their



THE MEMORIAL WELL AT CAWNPORE.

slaughter. The bodies of the victims were thrown into a well near the building; not only the dead but the living were thrown there, and when the English entered the place they were told by some of the natives how the butchery had been conducted, and that for hours afterward any one passing the well could hear the sound of groaning.

The carriage took our friends to General Wheeler's intrenchment, where a memorial church has since been erected, to the ghaut, or landing-steps, where the massacre on the boats was perpetrated, and then to the

scene of the worst butchery near the terrible well. The building has disappeared, and in its place is a cemetery containing the graves of those who perished there. Frank observed that many of the graves were nameless, and the guide said that the remains of only a few of the victims could be recognized. Over the well is a stone platform supporting the figure of an angel, and around the platform is an octagonal screen of marble of beautiful design. An inscription on the pedestal of the statue makes the melancholy record of the casting of "a great company of Christian people, chiefly women and children," into the well by the orders of the rebel Nena Sahib.

There is nothing of special interest in the hundred miles between Cawnpore and Agra, as the country presents the same features of flatness and monotony it has hitherto displayed. It was evening when our friends reached the city; they had hoped for daylight in order to have a distant view of the Taj Mahal, but were doomed to disappointment. This did not greatly matter, however, as they were sure to have all kinds of views of the famous mausoleum during their stay, and they went to bed and slept soundly.

Their first excursion in the morning was to the Fort of Agra, which includes the palace, the Pearl Mosque, and several other buildings of more or less interest; its walls are of red sandstone and of massive construction, so that they have suffered very little during the three centuries the fort has existed. Several hours were spent inside the fort, and there was so much to attract their attention that the boys could hardly realize how rapidly the time had passed. They agreed with the Doctor that the Motee Musjid, or Pearl Mosque, was the finest of all the buildings within the walls of the fort, and were ready to adopt the words of Bayard Taylor, who pronounced it the pearl of all mosques of small dimensions, and absolutely perfect in style and proportions.

Next to the Taj Mahal, the Motee Musjid is the great attraction of Agra. It stands close to the wall of the fort, and its three domes have been compared to bubbles that might be blown away by a gust of wind. Domes, roof, walls, pillars, floors, and all are of white marble, and the whole work is finished as finely as though intended for examination under a microscope. It is not a closed building, like the mosques of Cairo and Constantinople; one side is quite open to a large quadrangle, and as you stand in the latter, with the sun of India beating down on your head, you can see to the very depths of all the arches that support the domes and roof. Doctor Bronson said it was a most perfect specimen of the Saracenic arch, and the boys found that as the arches cut

into each other the perspective from any point of view was absolutely bewildering.

They ended their visit to the Pearl Mosque by climbing the roof, and looking down the river some two miles or more, where the Taj Mahal glistened in the sunlight and pushed its dome-like globe far into the sky. In the afternoon they visited the Taj, and remained there till the sun was setting: they went there again and again during the three or four days they remained at Agra, and when at last they left the city their curiosity and their love of the beautiful tomb of the wife of Shah Jehan were far from satisfied. Frank was the historian of this part of their travels, as we will learn by the following letter:

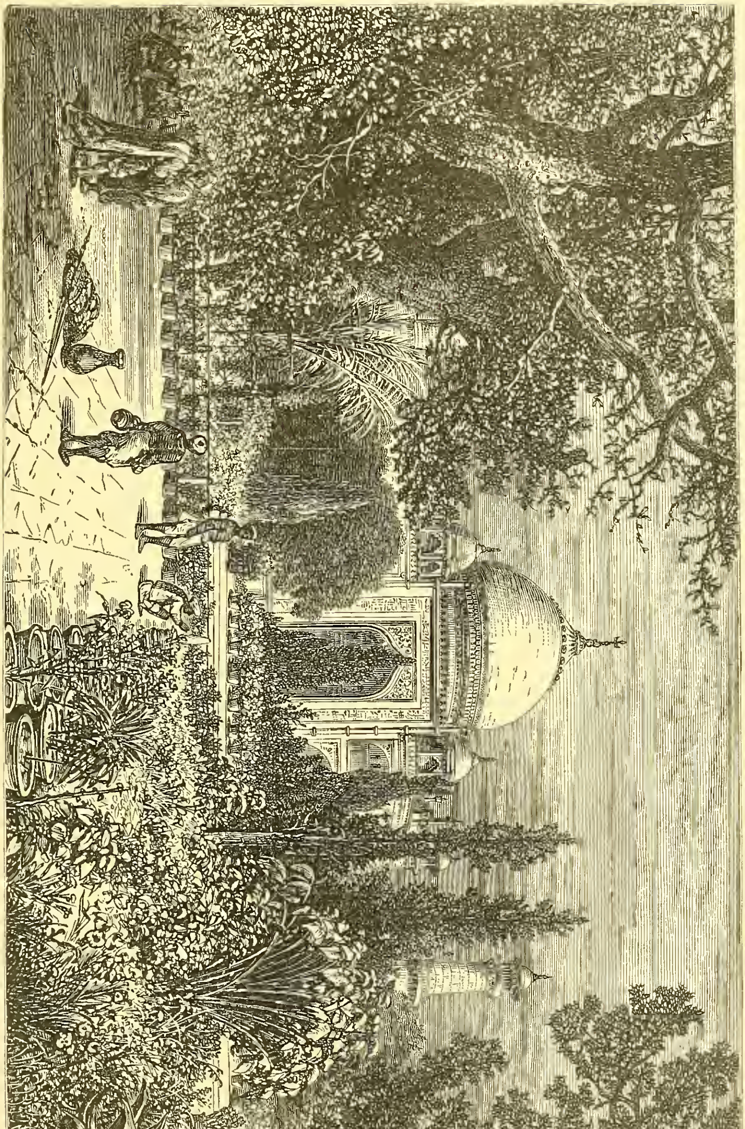
"I thought we had seen several beautiful structures in our travels thus far, and so we have; but none of them can compare with the Taj Mahal. Thanks to the care bestowed upon it by the East Indian Government, it is as perfect to-day as it was 200 years ago, when the builders delivered it to the emperor who ordered it. It is not a mosque but a tomb, and it is the handsomest tomb in the world. That you may know how it happened to be built, I will tell you something of its history.

"Shah Jehan, one of the Mogul Emperors of India, was married, in 1615, to *Moomtaz-i-Mahal.* They lived very happily together till she died, in 1629, and then the emperor determined to build her the finest tomb the world had ever seen, in the garden that had been her favorite resort. He summoned all the best architects of the time, and asked them to compete for the contract; his choice fell on Eesa Mohumed Effendi, who had been sent to him by the Sultan of Turkey. Several years were consumed in preparing the plans, more in collecting the necessary materials, and more in the work of construction, so that the building was not finished till upward of twenty years after the death of the lady in whose honor it was erected.

"Various figures are given for the cost, and the majority of them are not far from $15,000,000. It is said that 20,000 workmen were employed for twenty-two years in collecting materials and building the Taj Mahal; and as nearly all the labor was forced, there was great distress and mortality in the surrounding country. Doubtless the peasantry had little cause to revere the memory of the queen whose death brought them so much calamity. A poet represents them as saying,

"'Have mercy, God, on our distress,
For we, too, die with our princess.'

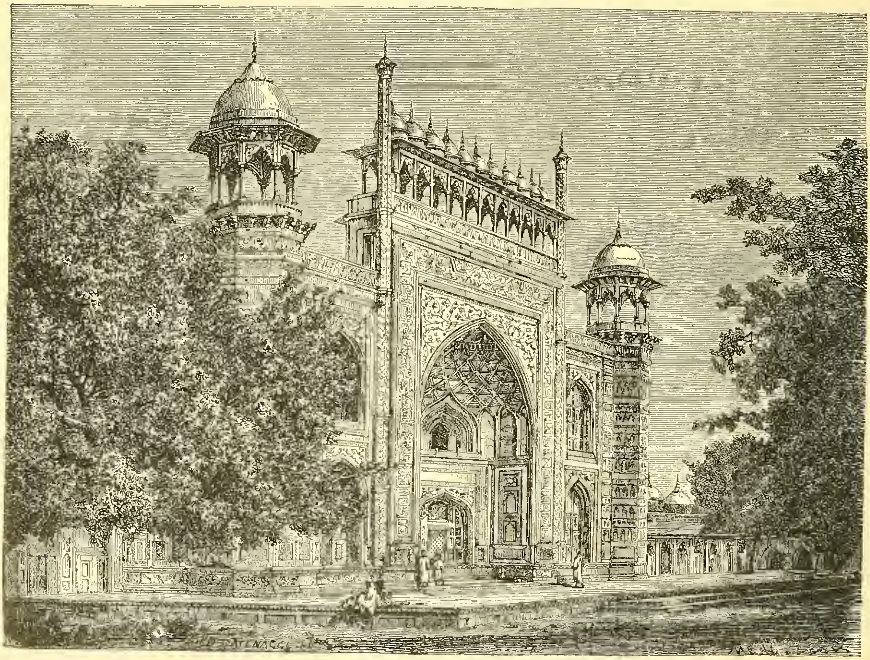
"It is a perfect building and not a ruin, and it is hard to believe that



VIEW OF THE TAJ MAHAL FROM THE GARDEN.

it is more than 200 years since the lovely Moomtaz-i-Mahal was laid here to rest. The situation contributes largely to the general effect of the work. The Taj stands on the bank of the Jumna River, and in the midst of a plain which is unbroken in every direction except by the Fort of Agra, and a few low hillocks. No matter from what direction you approach it, the Taj is visible for miles, and its dazzling whiteness is more impressive from a distant than in a near view.

"It is at the end of a large garden where Moomtaz loved to wander.



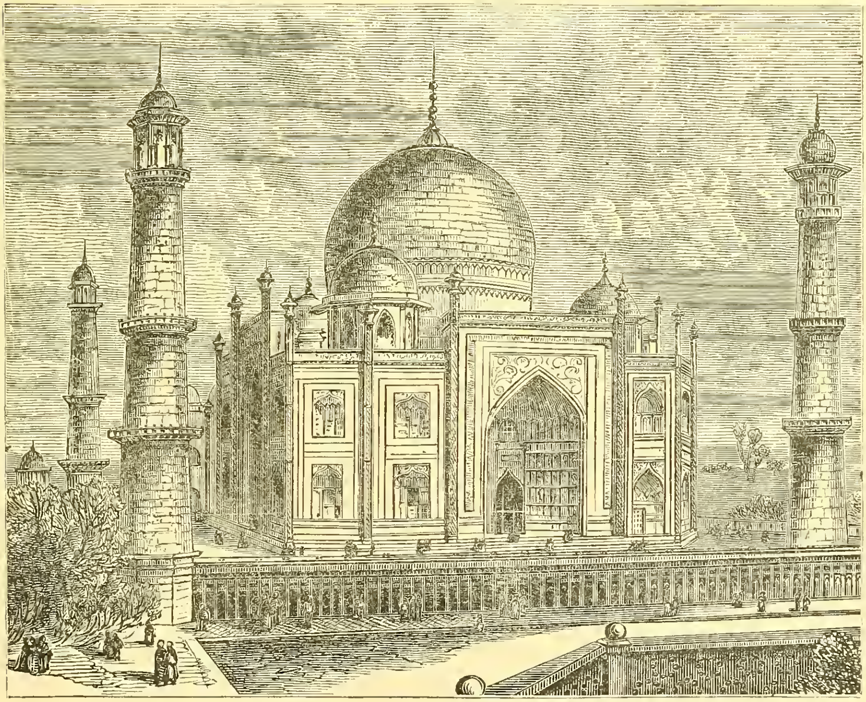
GATE-WAY OF GARDEN, TAJ MAHAL.

You pass a massive gate-way—itself a fine work of architecture—and look along an avenue of cypresses at the building of which you have heard so much. The view is somewhat spoiled by the garden, as you see only the tops of the minarets, and less than half the building itself. The best view is from the other side of the river, as it is quite unobstructed, and no part of the grand spectacle is lost. The central building and all its surroundings are included, and it is quite possible that the architect made his plans from this stand-point.

"First there is a broad platform of red sandstone at the end of the

garden, and about four feet above it. On this there is a marble platform eighteen feet high and 313 feet square, white marble entirely, or at least externally. There is a tower or minaret 137 feet high at each corner of this platform, and the building in the centre is 186 feet square, except that the corners are cut off opposite each of the towers. The mausoleum thus takes the form of an octagon, with four of its sides broader than the other four. Each of the broad sides has a grand entrance like a half-dome, that rises nearly to the cornice, while on each side of the entrance there are two arches, one above the other. Around this magnificent door-way are Arabic inscriptions, consisting of black marble inlaid upon pure white, and the spaces left by the curving of the arches are similarly ornamented with mosaic scroll-work. It is said that the whole of the Koran, or Mohammedan Bible, is on the walls of the Taj, and all of it inlaid in stone.

"There is a dome at each of the four corners of the building, while



FRONT VIEW OF THE TAJ MAHAL.

there is a large one in the centre that swells from its base, so that at a distance it looks like a ball suspended in the air. The architect's attempt

in the construction of this great central sphere was as daring as it is successful. Doctor Bronson says that of all the domes he has seen in other parts of the world, none can compare in beauty with that of the Taj.

"Now picture the above in your mind if you can, and then add a mosque of red sandstone on either side, and on the level of the lower platform. I say 'on either side' for completing the idea at the risk of

THE PRINCESS OF SHAH JEHAN.

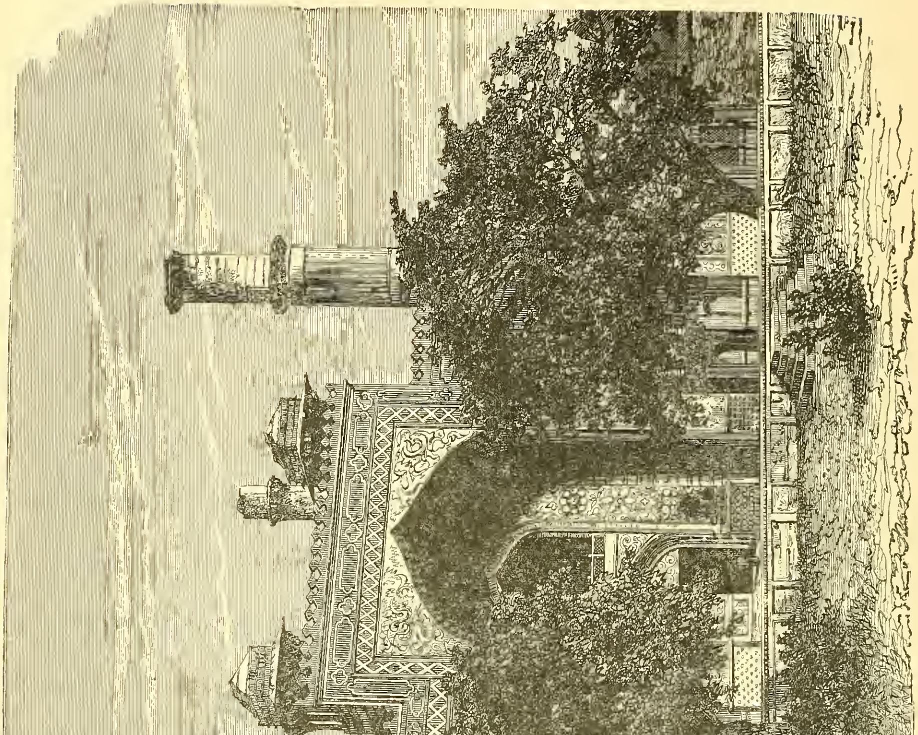
incorrectness. The building to our left, as we look from across the river, is really a mosque, and was intended for purposes of worship, while that on the right is of no sanctity whatever; it was simply erected for the artistic completeness of the picture, and is known as the *Jowab*, or 'Answer.' Without these buildings the Taj appears too high for its breadth, but when they come in view the effect is perfect. Height and breadth are exactly proportioned, and it would need a very bold critic to suggest an alteration.

"The tombs of Shah Jehan and his wife are in a vault beneath the floor, while the monuments for show are on the floor itself, and surrounded with a marble screen. If you have any doubt about the building having been erected for the lady, you will find it vanish as you enter; her tomb and monument are exactly beneath the centre of the dome, while those of her disconsolate husband are at one side. And here again is a marvel of the Taj workmanship; tombs, monuments, screen, walls, and pillars are covered with mosaic work, chiefly of flowers and scrolls, with many passages from the Koran. The scriptural texts are in black marble, but the flowers and scrolls are of jasper, carnelian, agate, and other semi-precious stones, with here and there an addition of mother-of-pearl. And in nearly every instance it is as carefully done as a Florentine brooch, and you do not wonder, when you have seen it, at the great cost of the work. It is as though we should attempt to cover the New York Post-office with frescoes as fine as the most delicate engravings on steel.

"We saw a single flower containing more than thirty pieces of stone, and yet the whole flower was not more than an inch in diameter. There are hundreds and hundreds of these flowers, and there is a vast amount of stems and scroll-work and sacred writings, and as you look around you are fairly bewildered with the display. Bishop Heber says the builders of the Taj 'designed like Titans and finished like jewellers;' the wealth and elaboration of the interior are in full keeping with its great external beauty and symmetry.

"There is a wonderful echo in the dome of the Taj; it repeats every sound of the voice with great distinctness, but will disappoint any one who tries to sing a complicated piece of music beneath it. If the notes are at all rapid, the echo runs them into one another, and makes a complete discord, but it is not so with very slow music. An English writer says the chord of the seventh produces a very beautiful effect, and it was this chord that Bayard Taylor heard and described as floating and soaring overhead in a long, delicious undulation, fading away so slowly that you hear it after it is silent, as you see, or seem to see, a lark you have been watching after it has been swallowed up in the blue vault of heaven.

"An English lady, who visited the Taj some years ago, said to her husband as they walked away from the building, 'If I could be assured of such a monument to my memory, I would willingly die to-morrow.' They were newly married, and the husband was not at all wealthy; consequently, the desired assurance was not given, and the lady did not die.



GATE-WAY OF SECUNDRA GARDEN.

Probably there are many ladies and men, too, that have seen the Taj who would share her opinion, as the building is, beyond dispute, the finest of its kind on the face of the globe."

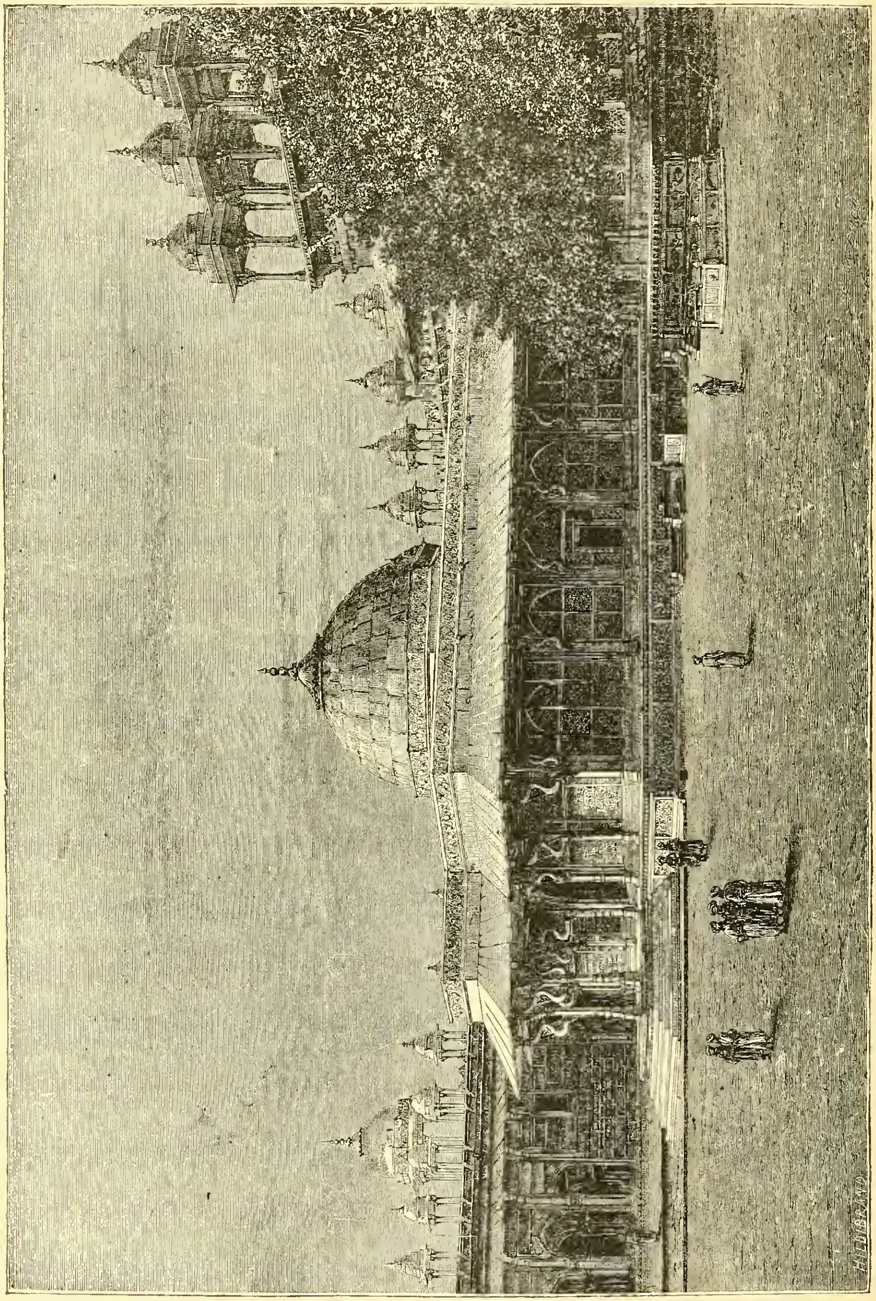
Thus ended Frank's letter. The Doctor pronounced it an excellent description of the Taj Mahal, and was sure it would be read with interest by all the Bassett family, and anybody else who could have access to it.

Fred's turn for letter-writing came next. An excursion had been arranged for visiting some interesting ruins at Futtehpoor-Sikra, twenty-one miles from Agra, and the account of this journey was assigned to Frank's cousin. The young man went at his task with great enthusiasm, and with the following result:

"Futtehpoor-Sikra was once a city three miles in length, with a rocky hill in the centre. The Mogul Emperor, Akbar, father of the Emperor Juhangeer, selected it as a royal residence, and built one of the finest palaces in all India on the rocky hill I have mentioned. The city has gone, and its site has been converted into fields; the ruins of the palace remain, and are the most extensive we have yet seen. They are a century older than the Taj Mahal, at Agra, and are not in as good a state of preservation. When I tell you that for nearly a mile along a rocky ridge you have an almost unbroken succession of buildings, you can understand that the palace and its surroundings were on a grand scale.

"To go there we found it necessary to 'lay a dawk,' as they say in India—that is, to arrange for relays of horses along the road. The manager of the hotel attended to the matter and sent out horses the day before we were to visit Futtehporo-Sikra: there were two relays, one seven miles out and the other fourteen miles, and at each relay we found the horses ready, so that there was no delay in changing. We rolled along over an excellent road, and in two and a half hours we covered the twenty-one miles between Agra and our destination. In many places the road was shaded with tall trees; paroquets and other tropical birds were playing in the branches, and several times we saw monkeys swinging from the limbs, and evidently enjoying themselves.

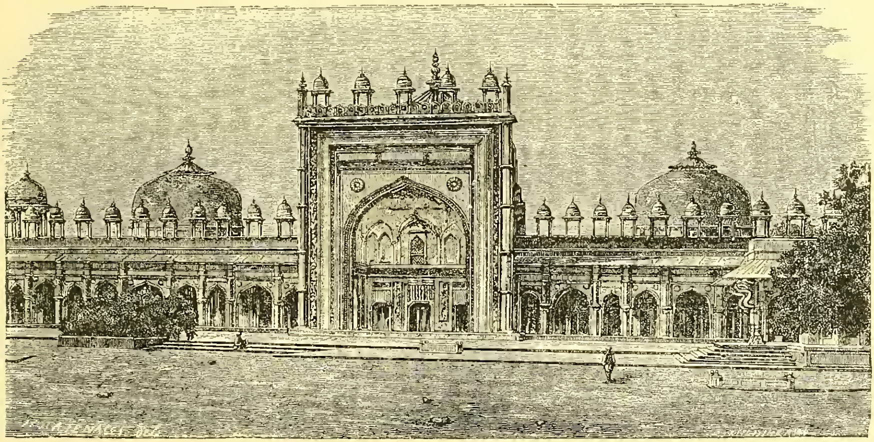
"The country is generally flat and very fertile; but there are not many objects of interest to be seen on the way. The route we followed is the old one of the emperor's, and we saw traces of a canal that was built for irrigating the land at the time Shah Juhangeer made his home here. We kept a sharp lookout for the ruins, and soon after we passed the twenty-first mile-post there they were. We stopped at what was once



TOMB OF THE EMPEROR AKBAR AT AGRA.

the emperor's business-office, but is now kept as a restaurant for the accommodation of visitors; it is at the entrance of the palace grounds, and in just the place where you might expect an office to be situated.

"I am afraid I should weary you if I attempted to describe all the buildings, and so I will pick out a few of the most important. There is, in the first place, the great mosque which some have pronounced the finest in India, and it certainly is a magnificent structure. It is known as the Durgah, and has an entrance that reminded us of the gate of the Taj Mahal, but in some respects it is more imposing. It is said that the entrance did not belong to the mosque originally, but was erected a good many years after the completion of the latter. The mosque is on the highest part of the ridge, and you must climb a series of steps to



ENTRANCE TO THE GREAT MOSQUE OF DURGAH.

reach it; the view from the top is quite extensive, and would amply repay the fatigue, even if there were no mosque there to interest us.

"Between the gate-way and the mosque there is a paved court-yard 433 by 366 feet, and the date on the main arch of the building corresponds to our year 1571. The pavement is in good condition, and so is that of the mosque itself; the Government applies the revenues of certain grounds in the vicinity to the preservation of the buildings at Futtehpoor-Sikra, and for the last twenty or thirty years they have not suffered any injury. The mosque has three domes, and a long façade, decorated with texts from the Koran, and with other inscriptions of Moslem origin. It is much larger than the Pearl Mosque, at Agra, but not half so pretty.

"I must tell you that a holy hermit named Sheik Selim lived here in a cave, and it was through his orders to the father of Juhangeer that the palace was built. They showed us the cave close to the mosque where the hermit lived, and hid himself away from the wolves and foxes, and then they brought us to his tomb, which is in the great court-yard I have described. As a work of art it is most remarkable, and we lingered some time to study it.

"The inside of the building containing the tomb is ornamented with paintings and mosaics of flowers, and over the tomb itself there is a canopy set with mother-of-pearl, which presents a beautiful appearance. A wide gallery or veranda runs around the outside of the building; there is a dome in the centre, and the eaves project so as to cover the gallery, and shelter anybody who may be there from the rain.

"The screen between the gallery and the enclosure containing the tomb is of white marble wrought into a sort of lace; Bayard Taylor says it looks as though it had been woven in a loom, and certainly when you examine it from a distance of ten or twenty yards it resembles lace more than anything else. You never saw any carving in marble as pretty as this is, and I wonder that the idea has not been taken up and utilized by marble-workers of to-day. The screen extends all the way round the building, and admits light enough into the interior to give a fine effect to the canopy and other surroundings of the saint's tomb. The whole building is forty-six feet square, and every inch of its surface is finished with the greatest care.

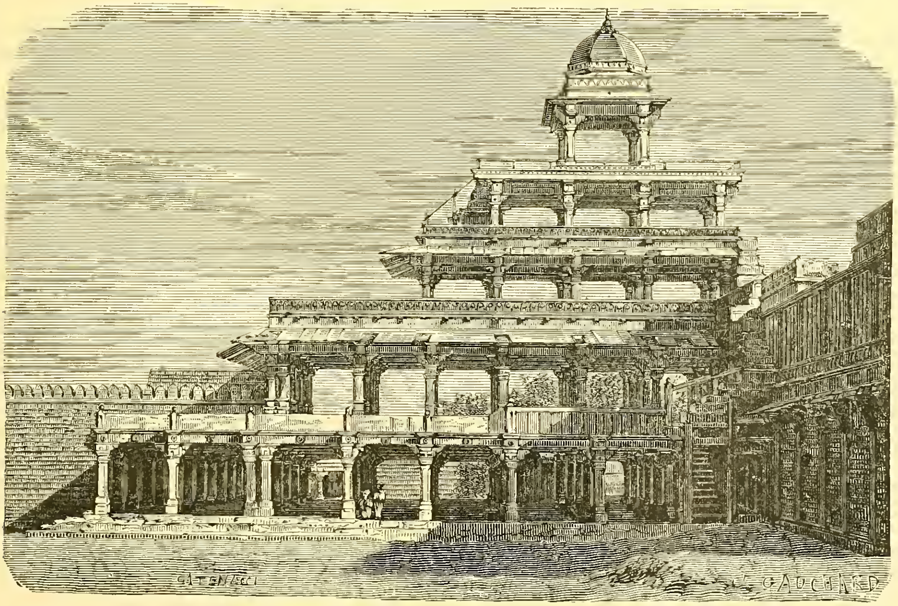
"We went through the great stables where the emperor's horses were kept, and then to the throne-hall, the council-hall, the houses of the emperor's wives, and to so many other buildings that I can hardly remember the names of them. A curious edifice is the Panch Mahal, which is five stories in height, and each story smaller than the one below it. The use of this strange building is not known.

"Then the guide took us to the Pachisi Board, which is a court-yard laid out in squares something like a chess-board, and surrounded by an elevated gallery. The emperor used to play pachisi—an Eastern game something like backgammon—on this 'board,' and the ladies of the harem acted as 'pieces,' and stepped from one square to another as the moves were made. At one corner of this yard there is a building where the ladies used to play 'hide-and-seek' or 'blindman's-buff;' at least that is the story they tell at the palace, but some of the historians say the place was nothing more nor less than a treasure-room. It must have been a wonderful spot in the days of its glory.

"There are fountains and pools in various parts of the palace-grounds, and one very pretty tank where the empress used to go to bathe. Outside of the walls of the mosque is a deep pool, and here there were half a dozen natives who offered to jump from the walls to the water, a distance of almost a hundred feet. They wanted half a rupee each, and we agreed to pay them, and so they climbed up and jumped. It was a fearful distance, and when they struck the water one after another it sounded like hitting a hammer against a board. In the first part of the descent they kept their limbs in active motion, but as they neared the water they brought their feet close together, and went in as straight as arrows.

"According to the historians, the emperor never lived long at Futtehpoor-Sikra, as Sheik Selim complained of the noise of having the whole court around him, and asked the emperor to move away. The latter then went and built Agra, on the banks of the Jumna; the whole court, with the people of the city around it, moved to the new site, and the wonderful palace was deserted, and has remained so ever since.

"We came back to Agra in the same way, and in the same time as we rode out in the morning. The excursion of the day was one that we shall long remember."



THE PANCH MAHAL.

CHAPTER XXXII.

IN AND AROUND DELHI.—DEPARTURE FOR SIMLA AND THE HIMALAYAS.

IT was just about sunrise when our friends entered the train that was to carry them from Agra to Delhi, a ride of 120 miles along the valley of the Jumna. The boys devoted a part of the time on the road to making an acquaintance with Delhi through the books that were drawn from their satchels; before the train rolled into the station they were well aware that the city claims an antiquity of more than 2000 years, but its history is involved in obscurity until the eighth century. From that date it has been the scene of several attacks and sieges, the last having occurred in 1857, at the time of the Indian Mutiny, when the power of the kings of Delhi was completely broken. The foundations of the present city were laid about 250 years ago by the Emperor Shah Jehan, who determined to exceed anything that had been done at Agra by his grandfather, the great Akbar. The palace or citadel is enclosed by a wall a mile and a half in circuit, and the city by a continuous wall of granite nearly six miles long. The citadel has two gates, and the city ten, all strongly fortified and capable of defence, as the history of the Mutiny sadly illustrates in the loss of English life at the final capture.

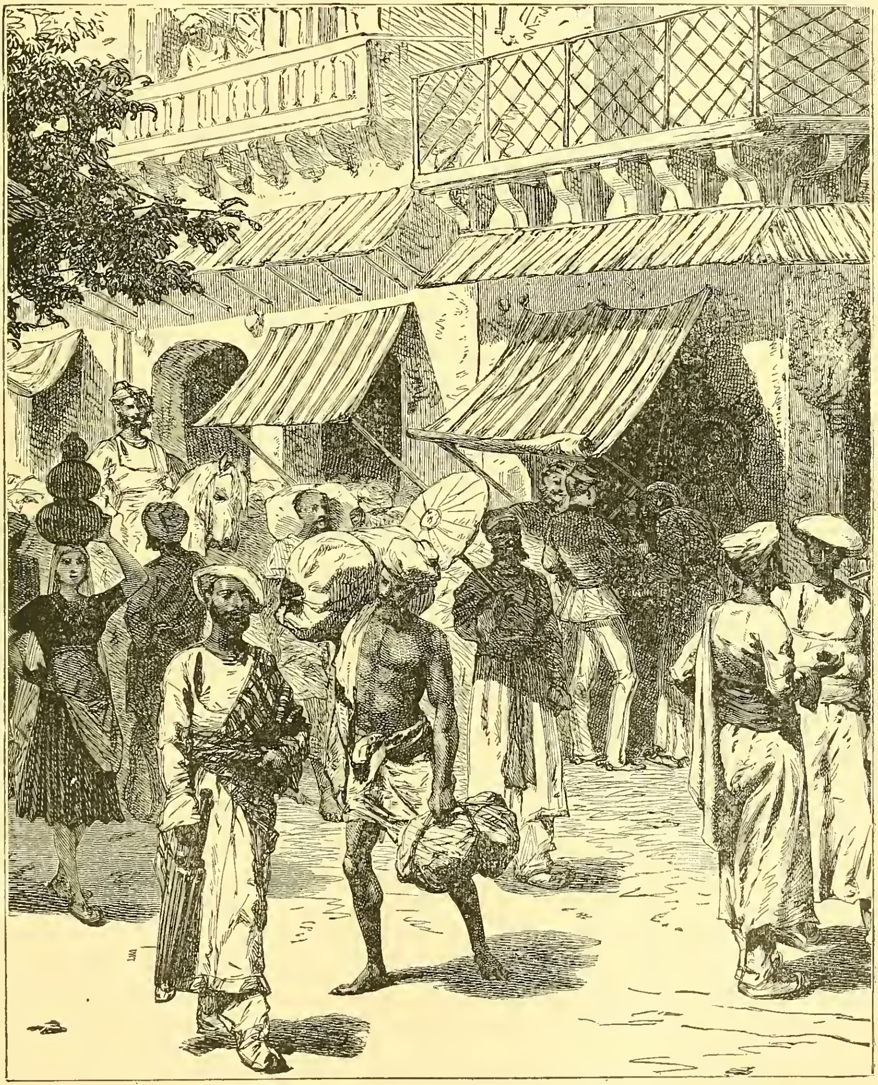
Delhi is one of the most interesting cities of India, partly on account of its historical richness and partly by reason of the many varieties of people to be met on its streets, and the splendor of its buildings. That it proved to be so to our young friends is shown by their account of what they saw and did during their visit. There was too much for either of them to write alone; so they wisely divided the labor, and made a joint production for the edification of their families and friends. We are permitted to copy the letter in full:

"Delhi, India, January 15.

"We have seen so much here that we don't know where to begin, and when we have started we sha'n't know where to leave off. Perhaps we had best take things in the order in which we saw them, and if we

find our letter is getting too long we can represent the last half of our sight-seeing by two or three 'et cæteras.'

"The first thing we did was to go to the Chandni Chowk, which is the Broadway of Delhi; it is more than a hundred feet wide, and has a row of shade-trees in the centre, while on each side are the shops of the wealthy merchants. From morning till night it is crowded with



SCENE ON THE CHANDNI CHOWK, DELHI.

people, and you see more varieties here a dozen times over than you do on Broadway in New York, or on the boulevards of Paris. There are men from Cashmere and Thibet; men from Southern India and Nepaul—Hindoos, Parsees, Arabs, Afghans, and various other tribes and nationalities that we cannot name without making a long list. There are men on horseback, with saddles and trappings richly set in silver, and possibly adorned with semi-precious stones; every little while you see carriages of European construction in which natives are riding, and occasionally a stately elephant moves along with an elegant howdah on his back. Then there are camels from the north, sometimes a dozen of them in a train, each bearing a burden of costly merchandise from the looms of Cashmere, or of grain from the fields around the great city. Native buffaloes are numerous, some with packs on their backs after the manner of camels, and others drawing rude carts with wheels hewn out of single blocks of wood. The scene is more thoroughly Asiatic than any we have yet encountered, and the people have so much color in their dresses that the moving crowd makes you think of a Japanese picture. In spite of the show of poverty in the coolie water-bearers and other low-class laborers, the picture of the Chandni Chowk suggests a great deal of wealth, and you almost expect to see in the next moment the cortege of a Mogul emperor entering by one of the gates and marching majestically toward the palace in all the splendor of the ancient days.

"We went into several of the shops where shawls and other products of Indian looms are for sale; and we also visited the famous jewellery establishments of Delhi where silver is wrought into a great many fantastic forms. If anybody wonders what becomes of all the silver that is taken out of the ground, he has only to come to India. This country, with China and one or two others of the East, has long been known for absorbing a vast amount of silver every year; it is made into jewellery and sold to all classes of people, but principally to those who cannot afford anything more costly. When you remember that there are 200,000,000 people in India, and nearly all of them wear as many silver ornaments as they can afford, you will not be surprised at the consumption of silver.

"We bought some shawls after considerable bargaining, and also some specimens of Delhi jewellery that are very pretty to look at, and possibly to wear. One form of jewellery is made by setting the claws of the tiger into brooches, ear-drops, bracelets, and the like, and the ingenuity of the natives is well displayed in the fanciful forms they give to this kind of work. Then we bought some miniatures painted on ivory, chiefly of the

Mogul emperors and empresses, with a few faces of modern days. The native painters produce these portraits in all the fineness of a steel engraving, and in brilliant colors; there can hardly be a prettier piece of painting in the world than a Delhi miniature. There was such an abundance of these paintings offered, that it took us some time to make a se-

MERCHANTS OF DELHI.

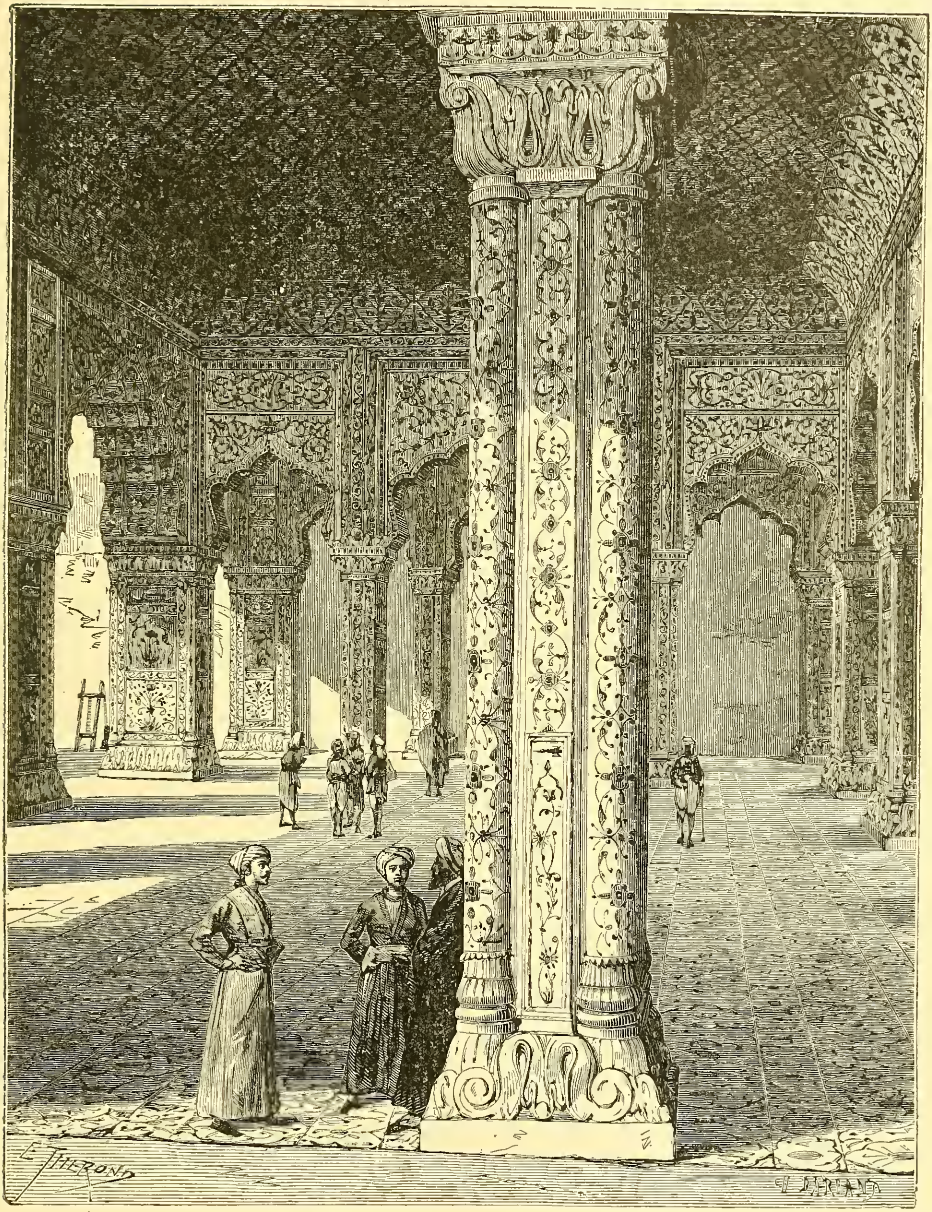
lection; the dealers came to the hotel every day after breakfast and dinner, and it seemed as though every one of them had at least a hundred pictures for sale.

"The fort or citadel was the next sight after the Chandni Chowk. Formerly there were about a dozen large buildings in it, and many small ones; but nearly all of the latter and some of the former were destroyed

at the time of the Mutiny, or within a few years after it. The finest of the public ones were preserved, and they are certainly great curiosities. There are two magnificent halls—the Dewan-i-Am and the Dewan-i-Khas. In the former the emperor used to give public audience to any one who wished to present a petition, while the latter was a hall of private audience, where nobody could come without special invitation. Both of them are of white marble, and their ceilings are beautifully carved with all sorts of curious designs. The pillars that support the roof are very large, and you only get an idea of their real size when you see a man standing near one of them. The Dewan-i-Khas is smaller than the other, and is more like a pavilion than a room, as it is open on three sides, and the wind can circulate freely through it. They say that the ceiling was once composed of gold and silver filigree-work made by the jewellers of Delhi, and cost a great deal of money; the same room contained the famous 'Peacock Throne,' which received its name on account of its back being made to represent an outspread peacock's tail, set with diamonds and other precious stones. We cannot do better than copy the description of it:

"'The throne was six feet long and four broad, composed of solid gold inlaid with precious gems. It was surrounded by a gold canopy supported on twelve pillars of the same material. Around the canopy hung a fringe of pearls; on each side of the throne stood two *chattahs*, or umbrellas, symbols of royalty, formed of crimson velvet, richly embroidered with gold thread and pearls, and with handles of solid gold eight feet long, studded with diamonds. The back of the throne was a representation of the expanded tail of a peacock, the natural colors of which were imitated by sapphires, rubies, emeralds, and other precious gems. Its value was estimated by Tavernier, a French jeweller, who saw it, at £6,000,000, or $30,000,000.'

"When we heard about the peacock throne you can be sure we wanted to see it, and asked the guide to show us where it was. He said it was carried away by the great Persian conqueror, Nadir Shah, when he captured Delhi in 1738, and ordered its inhabitants to be massacred. More than 100,000 were killed by his command, and history says that he sat in the Dewan-i-Khas with the captured monarch, while the troops were obeying his command and slaughtering everybody on whom they could lay their hands. Men, women, and children were butchered, and the property carried away from Delhi amounted to a great many millions. The throne was in the centre of the room, and the place where it stood is occupied by a block of marble. We tried to picture the scene when



THE DEWAN-I-KHAS, DELHI.

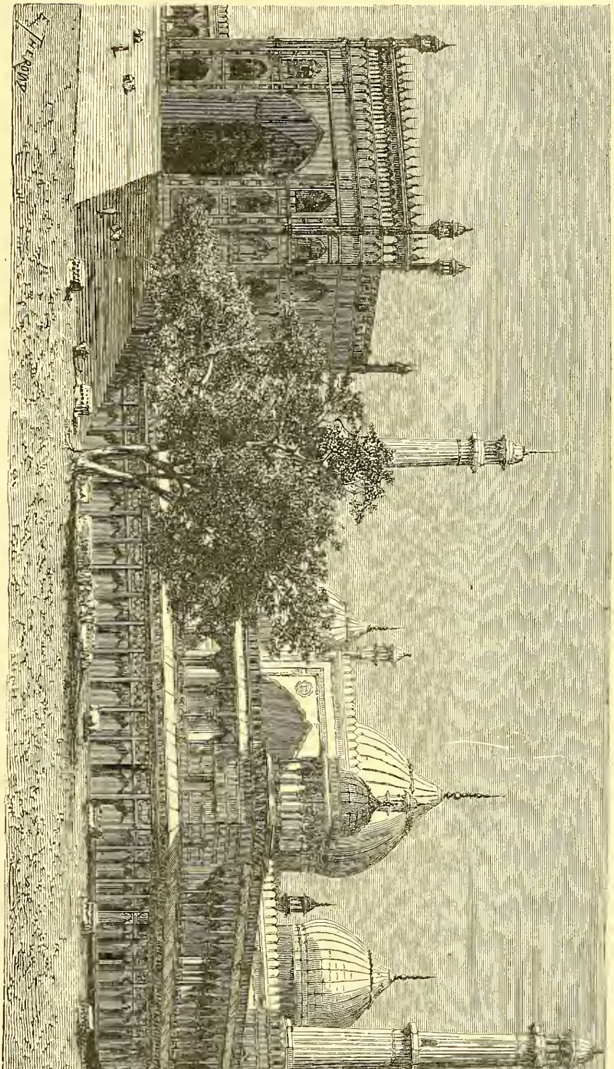
Shah Jehan was in the height of his power, and before the Persians had come to plunder him. According to all accounts, Delhi must have been superior to any other city of the East in barbaric splendor, and her wealth was something fabulous. When the English captured the place, in 1857, the soldiers were allowed to plunder the palace, and they carried away millions of dollars' worth of diamonds, and gold, and other precious things.

"On the block of marble where the peacock throne stood we saw an inscription in Arabic, and asked what it was. The guide said it was famous all over the world, and was as follows: 'If there be an elysium on earth, it is this, it is this, it is this.' The Arabic words are '*Agar furduse baru-i-zamin ast, hamin ast, hamin ast, hamin ast.*'

"We left the palace and proceeded to the Jamma Musjid, or Great Mosque, one of the finest in all India. It stands on a small hill; and as the minarets are 130 feet high, a view from the top of one of them includes the whole of Delhi and a large extent of country around it. To enter it we climbed a long flight of broad steps, and then crossed a court-yard 450 feet square, with a marble tank in the centre. The court-yard has steps on three of its sides, but the principal entrance is on the east, and this was the one our guide led us to. The mosque is on the west side of the court, and is a handsome building, 200 feet by 120; it has three marble cupolas, and is paved throughout with slabs of white marble with a black border, so that its appearance is very rich. There is a good deal of marble carving in and about the mosque, and we were not surprised to learn that it took ten years to complete the building. The proportions of the interior are not as fine as those of the Pearl Mosque, at Agra, and it is evident that the architect tried to make a large building, rather than a strictly handsome one.

"The whole city of Delhi was spread out at our feet like a map, as we looked from the minarets of the mosque. We could trace the streets, or at any rate all the principal ones, and our guide showed us the public buildings, and the points that were made memorable during the Mutiny. But we found our attention drawn to the ruins around Delhi quite as much as to the city itself. Far as we could see toward the south we discovered masses of ruins, or scattered tombs and other buildings; they cover an area ten or eleven miles long by six in width, and it is said that no less than five different cities have been built here. Delhi has been called the Rome of Asia, and certainly the comparison does not appear a bad one.

"Having seen the ruins of the old cities from a distance, we naturally



JAMMA MUSJID, OR GREAT MOSQUE.

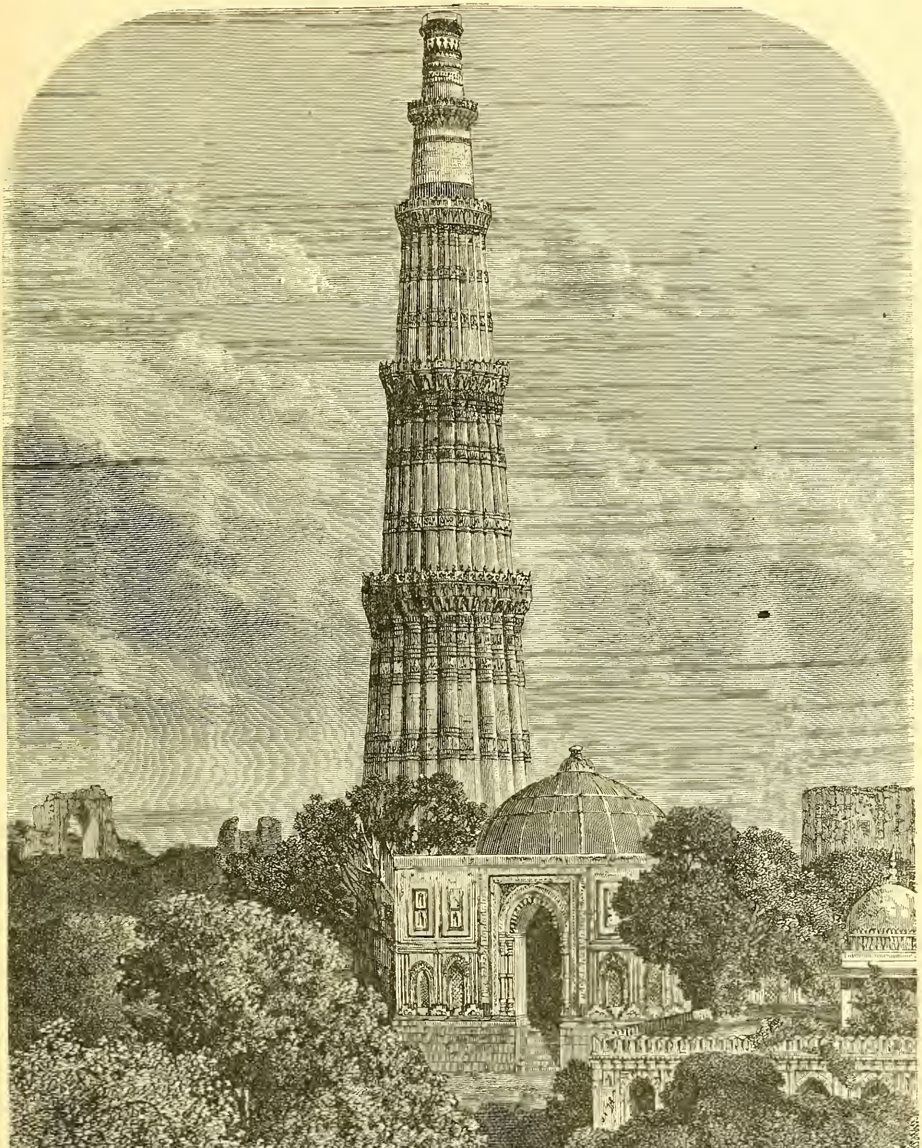
wanted to examine them closely. So our second day was devoted to an excursion, and we started early in the morning for a drive among the remains of ancient Delhi.

"We had our heads filled with tombs, walls, forts, old palaces, towers, and similar things, before we returned. The sight could not fail to impress us with the grandeur of the city of the Mogul emperors, and since we left home we have seen no better illustration of the changes which time works than in Delhi and the surrounding country. Empires and kingdoms that had their capitals here have been overthrown one after another, and in each instance the conquerors have shown little or no respect for the conquered. Magnificent tombs are decaying, palaces are crumbling into ruins, and the gardens which were once the secluded retreats of crowned heads are converted into fields and pastures. Where once were the crowded streets of a populous city there are now only a few straggling natives, who subsist on gratuities received from strangers, and the walls of the forts have gone to decay so that they would be utterly useless for purposes of defence.

"The most famous of the sights in the vicinity of Delhi is the Kuttub Minar, which is said to be the tallest column in the world. We are not quite certain as to the correctness of this statement, and will give the figures, so that anybody may correct us. It is divided from the base to the summit into five different stories, and each story has a balcony at its top. The distance between the balconies diminishes in proportion to the diameter of the column, so that as you look upward from the base the column appears a good deal higher than it really is. The lower story is shaped like a polygon, but the others are round, with deep fluting all the way up.

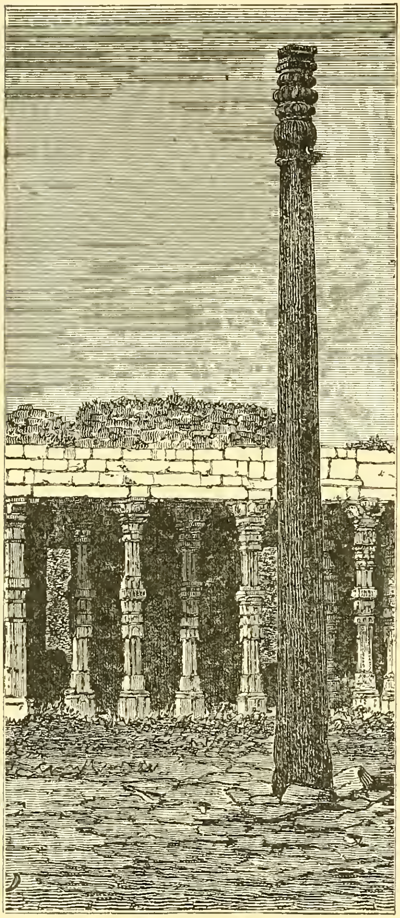
"The first three stories are of fine red sandstone, while the two upper ones are mostly of marble. The whole height of the column is 240 feet, and it is thought that it was originally not far from 300 feet. It is fifty feet in diameter at the base, and thirteen at the top, and is ascended by 375 steps. We did not find the ascent very fatiguing, as we rested at each of the balconies, and took things as easily as we could. Fortunately for us, the day was cool, and there was a fine breeze that required us to put on our overcoats as soon as we reached the top.

"It is not exactly known when the tower was begun or completed, but the inscriptions on and around it indicate that it was built about seven hundred years ago, and the work occupied twenty or thirty years. Evidently somebody wanted to excel it, as there is the beginning of another structure of the same character, but twice the circumference, about



THE KUTTUB MINAR.

500 feet away. The first story of this new edifice was never completed, and from present appearances it never will be. All around the Kuttub Minar there are ruins of mosques and temples, some of Hindoo and others of Moslem origin. The nearest and largest was the Jamma Musjid, or Great Mosque, of old Delhi, and was built from the ruins of twenty-seven Hindoo temples that were pulled down after the Mohammedans captured the city, about A.D. 1193. There is one arch fifty feet high and twenty-two feet wide, and one of its rooms was 135 feet long, with a roof supported on five rows of marble and sandstone pillars.



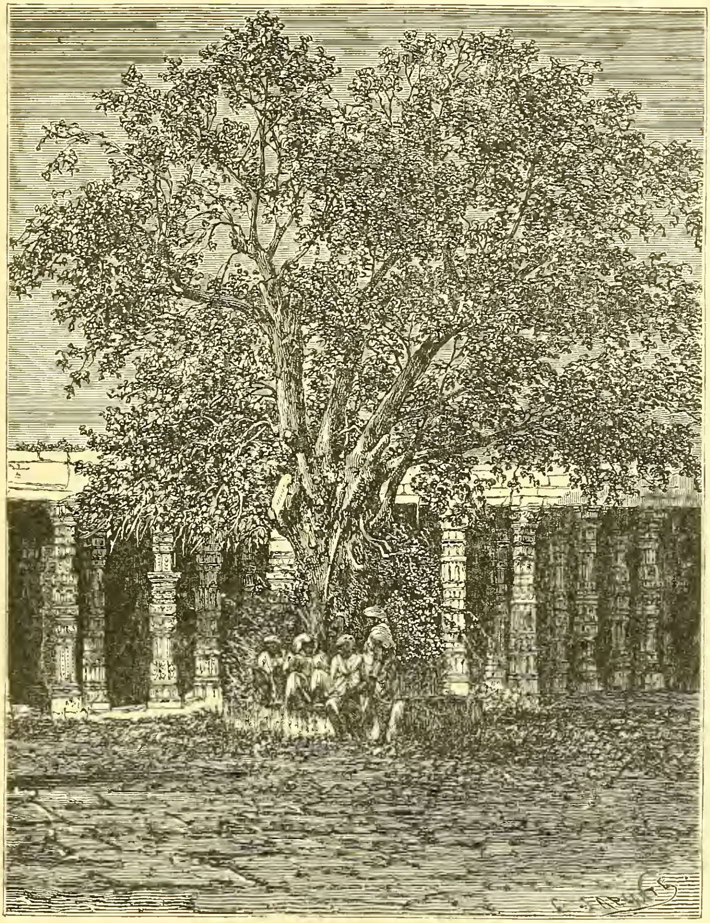
THE IRON PILLAR.

"From the ruins of the mosque the guide took us to a well about eighty feet deep, where a group of natives were ready to jump to the water on payment of a small sum. We had seen the same thing at Futtehpoor-Sikra, and were in a hurry to get through with the ruins, and so we refused to witness the performance. The guide told us that the men expected every traveller to pay them for taking this extraordinary leap; that it was their means of living, and they did not pretend to do any other work. The water is said to be very cold, as the sun rarely shines upon it, and nobody can tell how old the well is, or by whom it was made.

"In the court-yard of the mosque is an iron pillar twenty-two feet high, with a capital at the top, which is said to date from the Hindoo king who ruled before the Mohammedans came here. The tradition is that he dreaded the fall of his dynasty, and consulted the Bramin priests; they told him that if he could sink an iron pillar, and make it pierce the head of the snake-god Lishay, who supported the world, his kingdom would endure forever. He sunk the shaft, and after a while

took it up, to see what effect it had had; it was found covered with blood, and then the priests told him he had hurt the snake without killing him, and his kingdom would come to an end. Their prediction was verified, for soon after this event the Moslems came and captured his kingdom, and put him and many of his followers to death.

"There are some tall trees growing in the court-yard. We did not



TREES IN THE COURT-YARD OF THE MOSQUE.

realize how large they were till we saw a group of natives seated beneath one of them, and waiting to beg from us as we approached. Some of these trees are very old, and show conclusively that the place has been in ruins for a long time.

"We spent two or three hours around the Kuttub Minar, and then returned to Delhi, stopping on the way to see the tombs of several kings and queens, whose names would not be particularly interesting to you, and who have been dust and ashes for hundreds of years. The Government preserves these tombs from injury, and appoints keepers to look after them; but before the English took possession of India there was a good deal of destruction and negligence. It seems to have been the rule with these Eastern monarchs to destroy the works of their predecessors, rather than to preserve them; and if they failed to do so in any instance, it was because the destruction would cost too much, or require a long time.

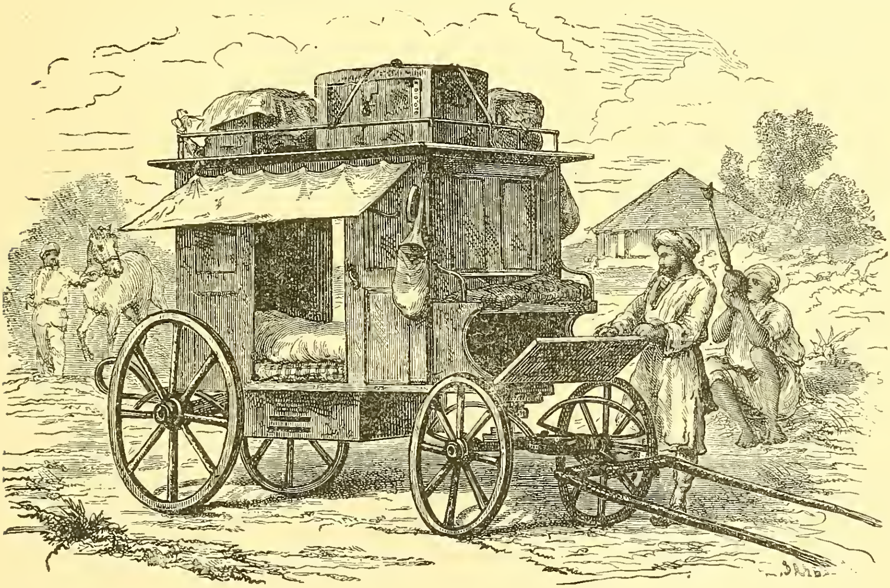
"There is enough around Delhi to keep a visitor occupied for at least a week, and if he is greatly interested in antiquities he might stay here a month and find something new every day. We are afraid of becoming tedious, and so we will cut this letter short, and say good-bye to Delhi."

From Delhi the party continued its railway journey to Umballa, 161 miles, without stopping, as there was nothing of importance to be seen along the route. Doctor Bronson had telegraphed the day before their departure for dawk garries to be engaged to carry them to Simla, and when the train reached the station a messenger informed them that the carriages had been secured. What the dawk garry is, and what was to be done with it, was a matter of some interest to the boys, as this was their first journey away from the line of the railway. How their curiosity was satisfied we will learn in the next chapter.

CHAPTER XXXIII.

FROM UMBALLAH TO SIMLA.—EXCURSION AMONG THE HIMALAYAS.

IT was nine o'clock in the evening when our friends reached Umballah, and they wisely concluded not to begin their journey till the following morning. They found that the carriages would be ready at daylight, and so they retired early in the hotel attached to the railway-station, and had

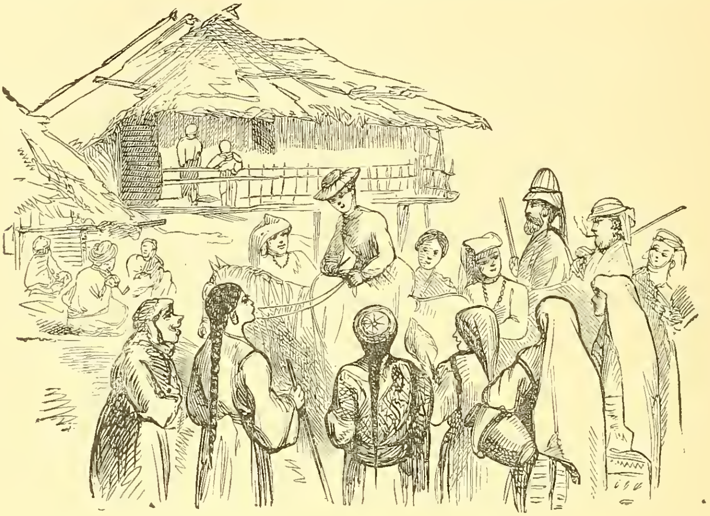


THE DAWK GARRY.

a comfortable sleep. They were called in good season, and by the time their breakfast was finished the baggage had been piled on the top of the vehicles that were to carry them. With the first streak of dawn they were off.

Two garries had been engaged—one for the Doctor alone, and the

other for the boys. They were not unlike the vehicles they had already seen in the cities of India, except that they were larger and stronger, in order to adapt them to the rough travel of the mountains. Each carriage is capable of carrying two persons of medium size, and it is arranged so



HORSEBACK-RIDE IN THE HIMALAYAS.

that a bed can be made up on the floor in case of night journeys. For all journeys away from the railways the dawk garry is in universal use, where the roads will permit, and in the days before the completion of the railway across India it was indispensable. It is not a very comfortable conveyance, but a vast improvement on no conveyance at all.

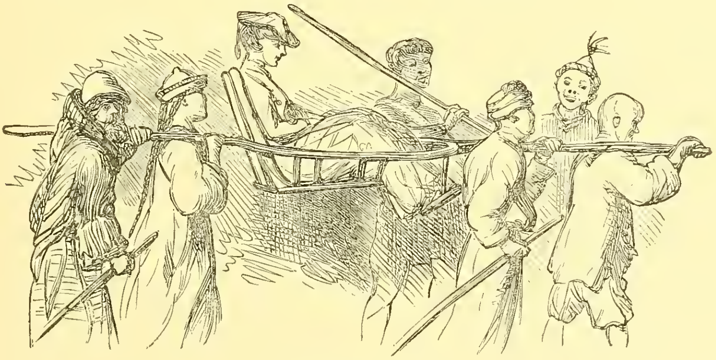
Three horses were attached to each garry, one between the shafts, and one on each side of him. They rattled along at a very fair pace, as the road was good, and the drivers were anxious to finish the journey as soon as possible. There were a good many jolts on account of mud-holes or other inequalities, but, on the whole, the progress was satisfactory, and the boys enjoyed the ride immensely. About every six miles they changed horses; and as there is a good deal of travel on the route, and the carriage company understands its business, the changes were made very quickly.

For the first forty miles the road was level, as it lay along the flat valley of the Ganges. They reached Kalka, which is at the base of the foot-hills, and then began to ascend toward Simla. Until a few years ago there was no carriage road beyond Kalka, and travellers were obliged to

ride on ponies or be carried by men, and sometimes at present the supply of horses is exhausted, and the old method must be resorted to. When the rush begins for Simla in the early summer there are not sufficient horses for the service, and unless a visitor has made his arrangements beforehand he will be compelled to adopt human locomotion, while others, more fortunate, ride in the rapid garry.

There is a considerable variety of vehicles for man-transport, including the palanquin, sedan-chair, and dhoolie, which have been mentioned already. The conveyances which were new to the eyes of the boys were the *bareilly dandy*, and the *jampan*; and while they were looking at them the Doctor said they must get well into the mountains to see another, the *ton-jon*.

The bareilly dandy is a cane chair in an oval frame that extends into a pole at each end, and for the convenience of the rider the chair is made



A BAREILLY DANDY.

to incline a little backward. Four bearers carry the burden, and are relieved at frequent intervals, so that eight men are required for a journey, besides the additional torch-bearers and other attachés. For mountain travel it is desirable to have each team composed of two tall and two short men; in going uphill the short ones take the front position, so that the chair may be kept nearly level, and the arrangement is reversed during a descent. The *jampan* is much like the *dandy*, with the addition of a cover like an umbrella, to keep off the heat in the sunshine and the water during a shower or storm.

The *ton-jon* is used in the roughest parts of the mountains, where the dandy and jampan cannot go, and is a very simple contrivance. The largest and strongest of the mountaineers are alone capable of performing

the service, and their pay is equal to that of four ordinary men who carry a palanquin or similar vehicle. The ton-jon is a cane chair, strapped to the back of a man, and held in place by a broad band over the forehead; he carries a stout staff, on which he rests his load occasionally; and his pace is very slow, as it must of necessity be sure. A fall would be a serious matter both to himself and his burden, and he takes good care that it does not occur. After reaching Simla the boys had an hour's experience with the ton-jon, and were quite satisfied not to have an extension of time.

A TON-JON.

"A little ton-jon goes a great way," said Frank, as he descended from his chair.

"Yes," responded Fred, "that may be; but a large one does not go a great way in the time we have had it, and the little one would easily beat it without much exertion."

Frank immediately turned the conversation to something else.

While ascending the hills a few miles out of Kalka, our friends overtook a gentleman they had met on the railway train, and who had given them much valuable information. He was walking behind his garry, which was heavily laden with the materials for a hunting-excursion in the Himalayas, and carried his rifle on his shoulder, in the hope of seeing something worth shooting. He was enjoying his pipe, and his two servants were evidently inclined to follow his example, as they were smoking their hubble-bubbles, and seemed to enjoy them. The hubble-bubble is a curious contrivance, and about as uncomfortable an apparatus for smoking as could well be imagined. It is made as follows:

Two eyes of a cocoa-nut shell are pierced, and through them the meat is carefully extracted. The stem of an upright pipe is inserted in one of the eyes, and carried almost to the bottom of the shell; the stem and bowl of the pipe are at least a foot long, so that when in use the fire is above the level of the smoker's head. The shell is half filled with water; fire is placed on the tobacco in the bowl, and the smoker applies his mouth directly to the hole in the shell or to a short stem protruding

from it. The bubbling noise of the smoke as it rises through the water gives the name to the pipe.

Their new acquaintance was Captain Whitney, an officer in the English service in India, and a hunter who had considerable renown among his fellow-officers. While on the railway train he had asked the Doctor to call on him in Simla, and he now renewed the invitation, which was promptly accepted; and the light garries moved briskly on, while the heavy one proceeded leisurely.

Up and up they went, and steeper and steeper grew the road. Simla

VIEW OF THE HIMALAYAS.

was reached in due time, and proved to be a pleasant town in the mountains at an elevation of about 7000 feet above the level of the sea. It stands on a long ridge that affords a fine view of the Himalayas, though

not of the highest peaks. It was bought, with the section of country around it, in the year 1822, from the native state of Keonthal, and has since been occupied as a sanitarium by the Government. In 1866 Simla was made the seat of the Government of India during the summer months: from April to October the viceroy lives there, and the Government orders and official documents are dated at Simla instead of Calcutta. The movement of the Court brings a large number of Europeans to the little town in the mountains, and for half the year it is crowded to its utmost capacity, while during the other half it is almost deserted.

There are several of these summer resorts in the Himalayas, and the most of them are under Government patronage. Mussoorie, Landour, Nynee Thal, and Darjeeling are among the most noted, and there are others of smaller celebrity. For a long time Darjeeling was the most important, as it was the nearest to Calcutta; but the construction of the railway has brought the others into notice.

Darjeeling is about 300 miles from the capital, and can be easily reached at present, as a railway was opened in 1878 to within twenty miles of its doors. It is about the elevation of Simla, but has the advantage over the latter that the summits of some of the highest peaks of the Himalayas are plainly visible, and in clear weather they appear only a few miles away. The highest peak of all is Mount Everest, 29,000 feet above the sea-level, and claimed as the loftiest mountain in the world; it is not visible from the town itself, owing to an intervening ridge; but can be seen from several points in the neighborhood. The great mountains visible from Darjeeling are Kunchinginga, second to Mount Everest, and then Junnoo and Kubra, each more than 23,000 feet high. Altogether there are twelve peaks, each more than 20,000 feet high, to be seen at a single glance from the public square of Darjeeling, besides many other little fellows of 10,000 or 12,000 feet. There is no town on the globe with such a magnificent mountain view as this.

The foot-hills of the Himalayas are admirably adapted to the cultivation of tea, and a great many tea plantations have been established there. On the road from Calcutta to Darjeeling many plantations are passed, and the business of tea culture is increasing every year. The forests of the lower slopes of the mountains are fast disappearing, to make way for the less picturesque tea-plant, and the export of the product amounts to many ship-loads annually. The system of cultivation was introduced from China by the East India Company. The tea-leaves are gathered by women, and it is not unusual to see a woman at work in the field with her baby near her, in a basket, shaded by a friendly bush.

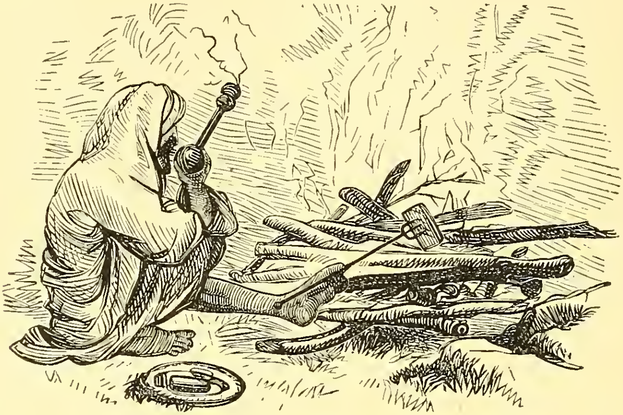
Our friends found a comfortable hotel at Simla, and proceeded at once to learn all they could of the Himalayas. Their new acquaintance, Captain Whitney, was at the same hotel, and proved a most admirable companion and entertainer, as he was able to enlighten the boys on many topics of interest. For a whole day they were kept in-doors by a sudden and violent storm, and even on the second day the wind and snow had not subsided sufficiently to enable them to stir out to any advantage. The captain was an excellent talker, and the Doctor and the boys were equally good listeners; with this combination of qualifications the quartette was satisfactorily composed, and got along finely.

GATHERING TEA-LEAVES IN INDIA.

On the second morning of their stay Frank took a stroll around the premises while waiting for their early breakfast, and came back with a sketch of the cook at work. He had discovered that worthy engaged in toasting bread, and holding the toasting-fork between his toes, while he grasped his hubble-bubble pipe with both hands. Frank had observed that the natives make many uses of their toes that are unknown to the Occident, but this way of holding a toasting-fork was quite a new sensation.

The boys observed that they were among a new race of men, as there were many of the inhabitants of Simla that had a stronger resemblance to the Chinese than to the people of the plains of India. Captain Whitney told them that the great majority of the hill natives were of Tartar

origin, and farther up in the mountains they were hardly to be distinguished from Chinese. Many of them wear their hair in cues, or pigtails, and their dress is of the Chinese pattern. There are many different tribes of these mountain people, and some of them are not on friendly



A MODEL COOK.

terms with the English. Hardly a year passes without a war in some part of the mountains, and for twenty years past the principal occupation of the English army in India has been to keep the hill tribes in order. On the extreme north the Afghans have made themselves heard from in recent days, and they may be regarded as the most powerful of all the dwellers in the region of the Himalayas.

A great many people from Thibet and Nepaul come to the mountain towns of India, partly from curiosity, but mainly for the purpose of making money. .They bring the products of those countries to exchange for English goods, and in the seasons when the mountain passes are open they may be seen in considerable numbers in Simla, Darjeeling, and the other fashionable resorts.

As soon as the weather cleared up an excursion among the mountains was arranged by the Doctor, to the great delight of the youths. Mounted on shaggy ponies, they started at an early hour in the morning, and had an exhilarating ride among the gorges and beneath the shadows of the rugged peaks of the second range of mountains. The forests were dense and luxuriant, and sometimes they were an hour or more where little else could be seen than the trees and climbing-plants attached to them. In one place they narrowly escaped a fall down a rocky slope, where a few months before an Englishman was killed, owing to a misstep of his

pony. Accidents of this kind are by no means rare, and hardly a year passes without the death of one or more adventurous tourists.

The flora changed as they ascended; the vegetation of the tropics disappeared and was replaced by that of the temperate zone, and with each hundred feet of elevation there was a perceptible change in the temperature. Occasionally they saw some curious climbing-plants that had thrown out numerous tendrils, like arms, around the trunk of a tree, and clung to it with an embrace that could not be shaken off. The tracks of tigers and leopards were visible now and then, and the guide

CLIMBING-PLANT IN THE HIMALAYAS.

entertained the boys with an account of how a tiger a short time before had rushed upon a travelling party, and carried away one of the servants under the very eyes of his affrighted companions. Every little while a

troop of monkeys showed itself, and when they were not visible their chattering was heard among the trees. Peacocks and wild turkeys were encountered, and one of the former was shot by the Doctor and secured by the guide, who said it would make an excellent dish for dinner.

A little before sunset they came in sight of one of the tall peaks of the range, and about dusk the guide brought them to a village where they were to pass the night. It was so cold that all the bed coverings they could get together were insufficient to keep them warm, and in spite of their fatigue they were out long before daylight and ready for the return to Simla. The boys would have been quite willing to under-

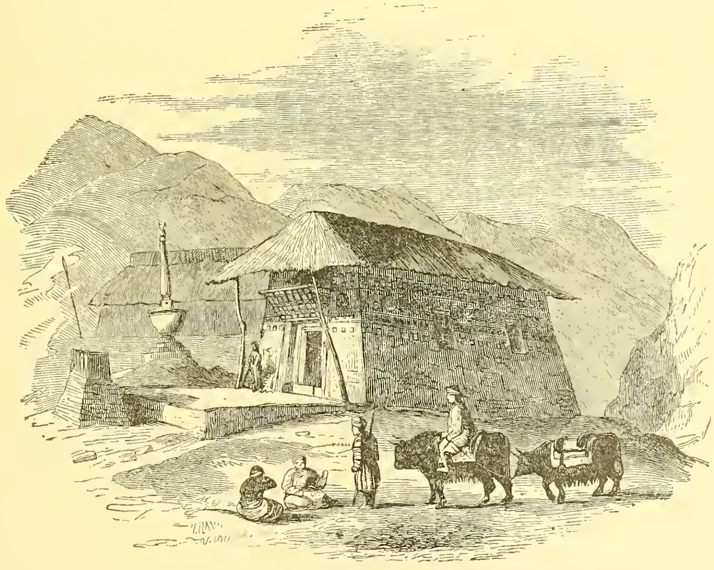
DOOR OF A TEMPLE, AND PRAYING-MACHINES.

take the ascent of one of the mountains of the Himalayas, but the party was not equipped for such a journey, and besides, their time would not permit. So they reluctantly turned their backs on the snow-clad mountains, and returned by the way they came.

The guide told the boys that if they had had a week to spare he could have taken them among the loftiest mountains of that part of the range and shown them many curious things. He described a Buddhist temple in one of the passes where there were about sixty priests, or lamas, whose chief business was to offer prayers for the safety of travellers, provided they were sufficiently paid for their work. They had an easy way of

saying prayers by means of a prayer-mill; it consisted of a cylinder like a small barrel, and was turned by a string fastened to a crooked handle. Every revolution of the cylinder was equivalent to a repetition of the prayer contained in it, and a skilful operator was able to turn out a great many prayers in a short time. Frank said they had seen the same thing in Japan at the entrance of one of the temples in Tokio, as well as in several other places, and the guide added that sometimes the prayers were attached to a small windmill, or to a water-wheel, so that the petition could be repeated many times while the priest in charge of it was sound asleep.

He had hoped to show them some of the saddle-oxen of the Himalayas, but in this he was disappointed, as they did not happen to meet any of them during their journeys. These oxen are the small sturdy animals of the mountains, and though they are no larger than a two-year-old steer in America, they can carry a load of two or three hundred pounds without difficulty. The Buddhist priests at the mountain tem-



SADDLE-OXEN IN THE HIMALAYAS.

ples keep several of these oxen, and in parts of the Himalayas they are preferred to other beasts of burden.

The boys were greatly interested in the description of a Thibetan train from the salt-mines on the northern side of the Himalayas, in which

every animal that can carry a load is pressed into the service. First comes a string of *yaks*, or buffaloes, peculiar to the mountain regions, and each of them has a cargo of two hundred pounds of salt, in addition to the pots and pans used in the camps, and possibly a baby or two in a basket hanging at the animal's side. Then comes a long file of sheep and goats, and each of them carries a bag of salt on his back; behind these quiet beasts of burden are two or three huge dogs of a peculiar breed, with long shaggy hair, and with noses flattened in so that they are almost like no noses at all. Every dog carries a bag of salt, and so does every one of the children that bring up the rear of the caravan. The only animals of the train exempt from service are the cats; their freedom from labor is secured, not from any tenderness on the part of their owners, but from the antipathy of the cat to working under the pack-saddle.

A THIBETAN DOG.

CHAPTER XXXIV.

HUNTING SCENES IN INDIA.—PURSUIT OF THE TIGER ON FOOT AND WITH ELEPHANTS.

THE curiosity of the boys to learn about the wild animals of India was awakened by their meeting with Captain Whitney, the famous hunter, and they were greatly delighted when they found him entirely willing to speak of his exploits and describe incidents of a hunter's life. The stormy day at Simla was, therefore, utilized to the fullest extent, and the stories of the gallant captain found a place in the note-books of both Frank and Fred.

We will let Captain Whitney give the account of his hunting experience, as nearly as we can, in his own words. The boys listened attentively to the stories, and afterward wrote them out from memory, and from the notes they had taken while sitting at the table in the parlor of the hotel where the conversation occurred.

"There are not as many tigers in India now as there were twenty years ago," said the captain, "thanks to the perseverance of the hunters and the bounties offered by the Government; but we have quite enough of them left, as you will understand when I tell you that in the Madras presidency alone, for the quarter ending September 30th of last year, the destruction by tigers and leopards amounted to 366 bullocks, 413 cows, 151 calves, 87 buffaloes, 112 sheep, 114 goats, 20 horses or ponies, and 15 donkeys. The number of human lives destroyed in the same time is not stated, but it is officially recorded that in six years 13,401 people were killed by wild beasts in the Bengal presidency; 4218 of them by tigers, 4287 by wolves, 1407 by leopards, and 105 by bears; the rest by other wild animals. In the year 1871 the total number of deaths in India by snakes and wild animals was 18,078, and about three-fourths of these were caused by snakes; in 1869, 14,529 persons lost their lives by snake-bites, and you therefore see that serpents are more dangerous than tigers.

"A tiger that has once tasted human flesh is ever afterward disinclined to hunt for other game. He has learned how easy it is to kill a

man, and how little risk he runs in doing so, and his instinctive dread of the human race seems to disappear altogether. Such a tiger is known as a 'man-eater;' he lies close to the paths where the natives pass and pounces upon them suddenly, and he has the shrewdness to change his locality a little after each slaughter. It is officially reported that in one district a man-eating tiger killed 127 persons in a short time, and caused a complete suspension of business on the road for many weeks. Another tiger killed 150 persons in three years, compelled the abandonment of many villages, and threw 250 square miles of country out of cultivation. The Government offered a thousand dollars for the head of this tiger, and he was finally killed by an officer of the army.

"There are several ways of killing the tiger," the captain continued, "and every hunter of experience and daring tries them all. The safest plan for a novice is to still-hunt, or bait, as we call it, and for this purpose we find where a tiger has killed a bullock and partly eaten him. We know he will return to finish his meal, or rather to make another; if there is a tree near by, we rig up a shelter and resting-place among the limbs, and early in the evening climb up there and wait. We have a couple of sharp-eyed natives with us, and they keep a steady watch for the beast. Sometimes he comes at dusk, sometimes two or three hours later, and sometimes not at all, and you have your night's watch in a tree for nothing; but if he comes you must be very careful about your aim, and try to bring him down at the first shot, since you are very unlikely to get a second. It is no easy matter to shoot a tiger in the dim light that you have under the circumstances, and many a skilful hunter has had the chagrin of seeing the brute escape.

"The native princes have a way of hunting tigers from *mychans*, or stands, but it is not much practised by Europeans. The stands are placed along a valley where a tiger is likely to run when driven from his retreat in the jungle, and some of these runs are so well known that the mychans are permanently built of stone, and fitted up with more or less luxury. I was once invited by a native prince to join him in a hunt of this sort, and of course I accepted. We were in a kind of fort on the bank of a stream, and while waiting for the tiger we were seated in comfortable arm-chairs, and received the liberal hospitality of the prince. After an hour or two the beaters who had been sent out succeeded in driving up a fine tiger; we heard the sound of their drums and tom-toms coming nearer and nearer, and suddenly out rushed the tiger and made for the water. The prince fired, and I also fired; but somehow the beast got away, though we felt sure he was wounded.

TIGER-HUNTING FROM A MYCHAN, OR SHOOTING-BOX.

"Some of the native princes will not allow the tigers on their property to be killed by Englishmen, but preserve them for their own hunting. They have even been known to let loose two or three tame tigers when they have a distinguished guest to entertain, and wish to make sure that he will have game to shoot at. Once, when a native prince was entertaining an English officer of high rank, he got up a grand tiger-hunt after the fashion I have just described, and the tigers came so near that two of them were killed by the guest. When the second was shot the whole party went from the mychan to where the dead animal was lying. The prince was embarrassed, and the guest astonished, to find that the tiger had a collar around his neck, with the name of the former engraved on it.

"Another way of hunting the tiger is with elephants, and the more of them you have the better. It is a very expensive mode of hunting, as it requires a great number of men and elephants, and therefore is not very common. When the Prince of Wales was here there was a grand tiger-hunt, in which he took part; there were several of these expeditions, in fact, but the greatest of all was given by Sir Jung Bahadoor, a native prince of enormous wealth. Five hundred and odd elephants were brought out on that occasion, and the spectacle was one of the finest ever seen in the country."

The captain paused a moment, and then resumed:

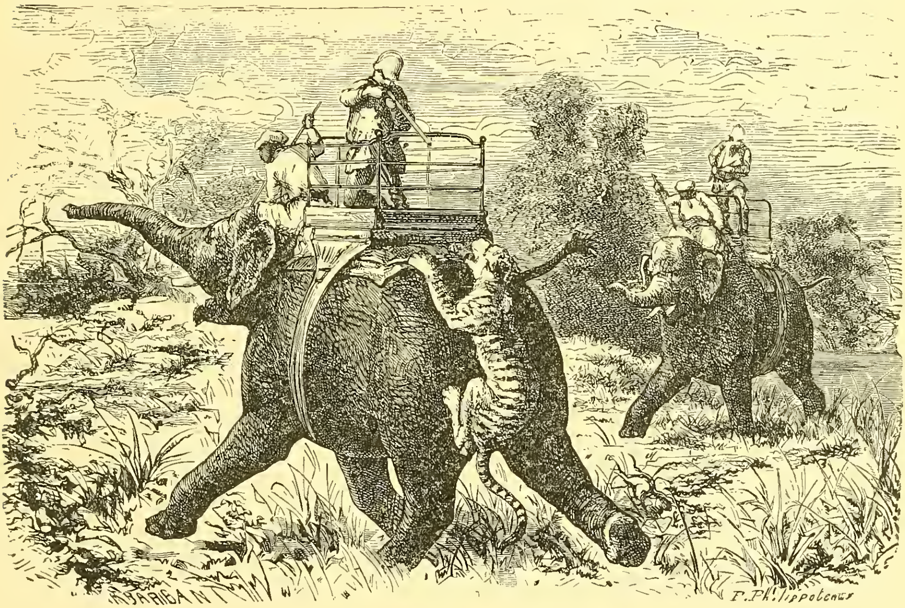
"Hunting with elephants is attended with some risk, partly because the tiger may spring upon the elephant and attack the hunters in the howdah, but more especially because the elephant may take fright and run through the forest quite out of the control of his driver. The howdah is swept off, and its occupants are very fortunate if they escape with whole skins.

"The way we do it is this. We surround a forest or piece of jungle where we know a tiger is concealed, provided we have elephants enough to do so, and then we move slowly in toward the centre, and make a terrific noise with drums and other unmusical instruments. The tiger tries one part of the line and then another, to escape, and in doing so he exposes himself to our shots. We generally succeed in bringing him down before he has done any damage, but are not always so fortunate.

"On my first tiger-hunt of this sort I had an exciting experience. I was assigned to an elephant that was said to be very steady and not easily frightened; I had a Remington rifle, carrying a large ball, and kept my cartridges handy, so that I could load and fire with great rapidity. While we were closing up the line I saw a large tiger trying to pass out of the forest, and immediately drew my rifle to the shoulder and fired.

"I wounded him in the side, but did not disable him. He turned, with a frightful roar, and made straight for me, and the elephant started to run as soon as the roar reached his ears. Before I could get in a second shot the tiger was on the elephant's rump and climbing directly to where I stood; but I settled him with a bullet in his brain, and he fell to the ground. The driver succeeded in stopping the runaway elephant, and as we came around to where my prize was lying I put in another ball, to make sure of his death, and the gentleman on the next elephant did the same.

"Perhaps you may smile at our putting a couple of balls into a tiger



AN AWKWARD PREDICAMENT.

that appeared to be dead, but you wouldn't if you knew the brute and his treacherous ways. Many a tiger has lain as if dead till somebody walked up to him; then he sprung to his feet, and in several instances he has torn the hunter to pieces. A friend of mine was terribly wounded in this way by a tiger that had already received four balls; he was lying on his side on the ground exactly as though he had breathed his last, and my friend walked quite around him and threw a piece of turf against his side without causing the least motion. Then he considered it safe to apply his tape-line to take the measurement of his game, and as he did

PROCESSION OF TIGER-HUNTERS ON FOOT.

so the tiger reared and seized him. Another gentleman was close by, and he settled the tiger with a bullet in his side, but not till my friend's arm was nearly torn from its socket.

"The favorite mode with all true sportsmen is to hunt on foot, and, for those whose means will not allow the expense of hunting with elephants, it is to be preferred, on account of its cheapness. Two or more gentlemen organize the party, or a man may have no partner, if he chooses, and keep all the game to himself. Any number of natives, from twenty upward, are required, and the more you have the better. There is a *shikarry*, or chief huntsman, who leads the party; he watches the tracks of the tiger, or the drops of blood, if the animal is wounded, and is constantly stooping on the ground to discover the desired traces.

"Behind the shikarry come the hunters, usually two of them, and they keep their rifles ready cocked, so as to shoot on the instant. Then follow two of the steadiest natives with the spare guns to hand to their employers the moment they are wanted, and behind the gun-bearers is the band armed with half a dozen drums, a dinner-bell, horns, tom-toms, pistols, and other things for getting up a noise, and the greater the noise is, the better. Then there are men who throw stones in front of the party, and stir up a tiger who may be lying concealed in the bushes, and there are spearmen on the right and left of the line, to keep the beaters together when passing through tall grass. There are two or three men whose duty is to climb trees and watch for any movements of the game. The procession moves very slowly, as it is necessary to be cautious, to prevent the escape of the tiger, and also to save the members of the party from injury if possible.

"The greatest danger of hunting on foot is in following up a tiger that has been wounded. It is never safe to venture alone into the jungle where such an animal has fled, even if there is good reason to believe he is dead; he may spring out at any moment, and his wound makes him desperately courageous. Once a party of us was advancing in this way, and came to a little clearing, where all traces of the tiger suddenly ceased; we had followed him by his blood, and the trail was so evident that we all thought he must have bled to death. While we were standing in the clearing, and wondering which way to go, there came a roar as though from beneath our feet, and the next instant the tiger rose from a little ditch not three yards from where I was standing. He sprung on my friend Major Rice, and threw him to the ground, and we all thought the major was killed. I fired as best I could, but did not succeed in killing the tiger, as I was fearful of hitting the major; then the shikarry handed me my loaded gun, and I fired again, with no better success. At the second shot the tiger seized Rice by the shoulder, and began dragging him away; I followed closely, and finally brought the brute down with a bullet through his skull. I gave him another, to make certain, and then we ran forward and pulled the major from under the tiger's body. He was not severely hurt beyond his arm, which was badly bitten, but the wounds healed in a few weeks, and he was as well as ever. The tiger measured eleven feet and one inch from the tip of his nose to the tip of his tail, and I sent the skin to a friend in England.

"I once had a narrow escape from a tiger that I had been pursuing and wounded with a couple of balls. It was among some low hills about fifty miles from here, and there was very little forest in that part of the

country. We were following him, and had come to a halt for a few moments in consequence of losing the trail; I was separated from the rest of the party, with only my gun-bearer near, when suddenly the tiger came bounding out of the forest and making directly for me. There was no chance of running, and my only dependence was on my rifle. I raised it and fired, and luckily enough hit him in the mouth and sent the

A GRAPPLE WITH A TIGER.

ball crashing through his skull. He fell dead, and was not two yards from my feet as he struck the ground. It was one of the narrowest escapes I ever had."

Frank asked what was the length and weight of the largest tigers killed in India.

"As to that," answered the captain, "there is considerable dispute. I have shot twenty-one tigers, and kept a careful record of the measurements, which I always took myself; and if an Englishman was present I had him go over the figures and apply the tape-line, to make sure I was correct. The average length of my tigers is nine feet seven and a half inches. The longest one I ever shot measured eleven feet and seven inches, and the longest I ever *knew* anybody to kill measured twelve feet six inches. I have heard on good authority of several tigers over twelve feet, and two of exactly twelve feet; but I have grave doubts of thir-

A NARROW ESCAPE.

teen-foot tigers, and still graver ones of fourteen-footers. As to the weight I cannot speak, as I never saw a tiger weighed, but they are very heavy in proportion to their size. They are all muscles and sinews, and

in an old tiger the work of cutting through the tendons and muscles of the leg is like dissecting a section of wire cable. He hasn't an ounce of fat, and his body when stripped of the skin forms the finest anatomical specimen you can imagine. The sinews will turn the edge of the hardest knife. Dissect a powerful bull side by side with a tiger, and the bull will appear as flabby and boneless as a jelly-fish by comparison with the other beast.

"I once saw a fight between a tiger and crocodile. It was on the bank of the Koosee River, where I had been out stalking antelope, and had sat down for a few minutes to rest. The river abounds in crocodiles, and, on looking at a little sand-bank close to the opposite shore, I saw several of their snouts just above the surface of the water. While I was thinking about taking a shot at one of them for the sake of practice, I heard a crackling in the bushes, and a huge tiger appeared at the edge of the river not ten yards from the crocodiles. Then I felt sure there would be some excitement.

"The tiger was thirsty and hot, and as he lapped the water he settled nearly half his body into it. Instantly one of the dark snouts moved toward him, but so gently that there was not the least ripple on the surface of the river.

"Within three feet of the tiger the snout disappeared. In an instant it rose again like lightning, the great jaws were opened, and in the same instant the tiger's head was enclosed between them.

"Then there was a terrible struggle. The tiger was powerful, and so was the crocodile. It was the tiger's fight for life, while for the crocodile the combat was not a light one.

"The tiger's head is so strong that even the jaws of a crocodile, powerful as they are, cannot readily break it. In this case the tiger's head was not crushed, or he would have been instantly killed, and the fight brought to an end at once.

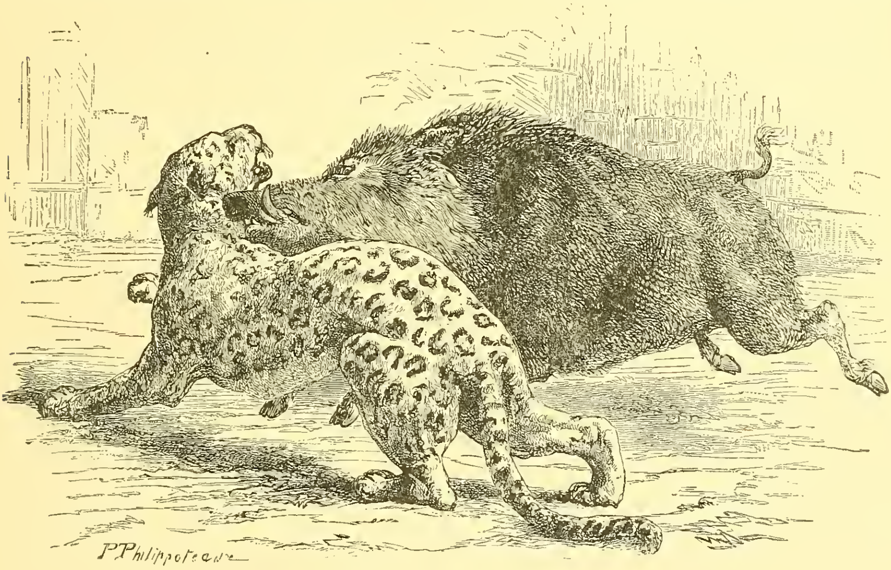
"They lashed the shallow water near the sand-bar into a mass of foam. Twice the tiger got his feet planted on the bottom, and fairly drew his antagonist out of the water. They rolled over and over, the crocodile maintaining his hold, which the tiger vainly attempted to break. At last they rolled into deep water, and as the tiger could get no footing he was carried below. The crocodile had the best of it, and disappeared in the depths of the river with his prey."

The captain closed his stories of tiger-hunting with the above anecdote, and then turned to other topics. He told about "pig-sticking," or chasing the wild boar of India, and said that many persons preferred it to

tiger-hunting, for the reason that it affords a fine opportunity for a ride across the country, and has its full share of danger.

"Many a horse and many a man," said he, "have come to grief on the tusks of an old boar, and there is not a hunter in the country who cannot tell of narrow escapes. Great skill is required in handling the spear; the horse must be well trained, and the rider have perfect confidence in his steed.

"Eight or ten is the usual number for a boar-hunt, and each man is mounted on his favorite horse. The pigs are driven out of the jungle by the native beaters on foot, and when they emerge into the open country



A WILD BOAR ATTACKING A PANTHER.

the hunters pursue them. No fire-arms are used, the only weapons being sharp-pointed spears about eight feet long. Servants follow the party with bundles of spears to replace those broken or lost, and in an exciting day's sport each hunter will require a change of spears at least half a dozen times. A boar will run very fast when he has an open stretch of country before him and a pack of hunters is at his heels. The hunter must come up so as to pierce the fleeing animal with his spear, and it often requires a good many attacks to lay him low.

"The boar is very apt to turn when he feels the prod of a spear and charge upon his pursuers, and he can inflict terrible wounds with his

tusks. It is in avoiding these charges that the horse and rider display their confidence in each other, and exercise their combined skill. The well-trained horse directs his course so as to bring the pig on his rider's right hand, and immediately after the blow is made he swerves away to the left. An experienced horse needs no guidance, but a verdant one must be directed by the rein, and it takes a very skilful hunter to attend to a horse and stick a pig at the same time."

The captain's talk drifted to elephants, but, as the boys had been at the elephant-catching establishment in Siam and learned how these huge beasts are shot and entrapped, they did not make any notes of the narrative.* They had stories of leopards and bears, of hyenas and wolves, and of several other wild animals in India, till it was late in the evening and bedtime had arrived. They heartily thanked Captain Whitney for the information he had given them, and wished him every possible success in the expedition he was about to make, and then they said "Good-night" and retired.

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* "The Boy Travellers in Siam and Java," Chapters XI., XII., and XVIII. New York: Harper & Brothers, 1881.

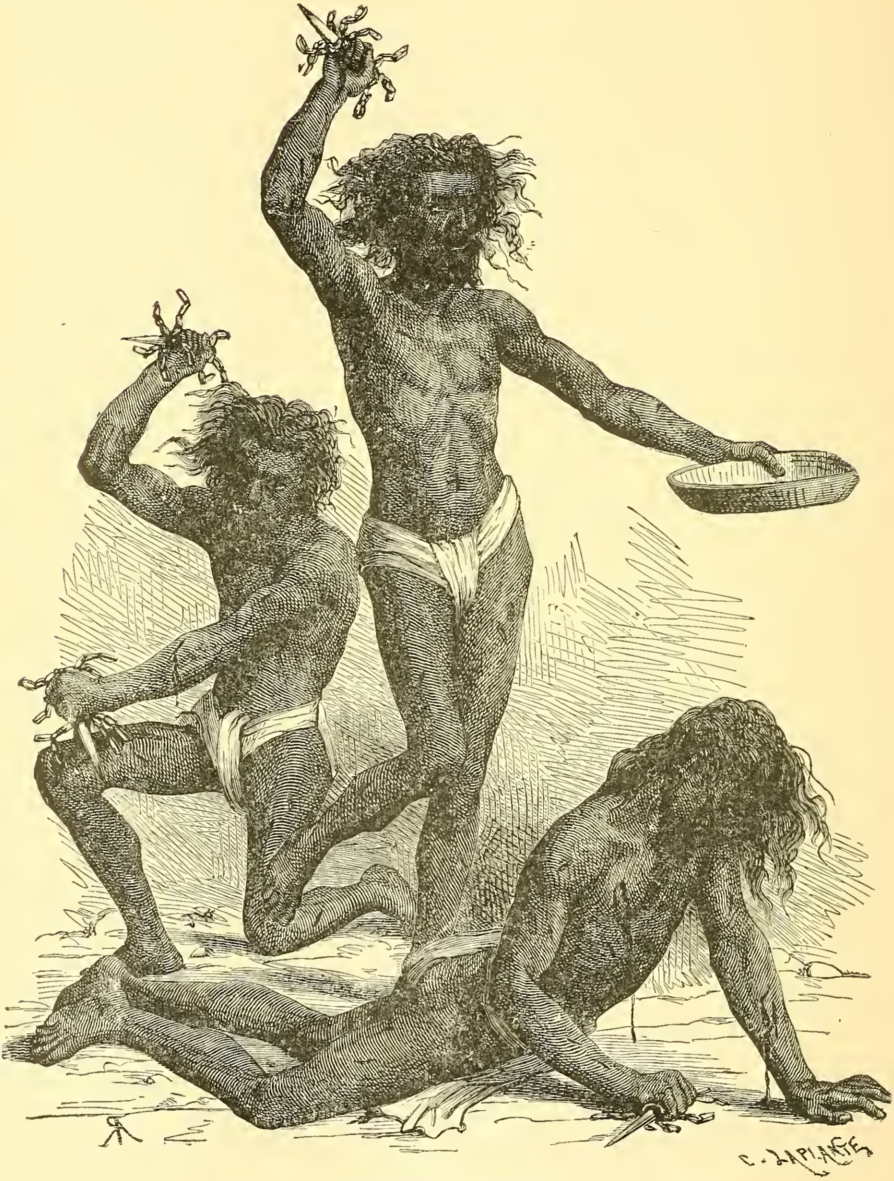
CHAPTER XXXV.

FROM SIMLA TO ALLAHABAD AND BOMBAY.—A GREAT HINDOO FESTIVAL.—CASTES.—THUGS AND THE CAVES OF ELLORA.

FROM Simla the party returned to Umballa, which they reached just in time to take the train for Allahabad. They expected to arrive there early in the morning, and it was just about daybreak as the train rolled over the magnificent bridge that crosses the Jumna just outside the city. The bridge is two-thirds of a mile in length, and built entirely of stone and iron, and the engineers had great difficulty in placing the piers, owing to the treacherous nature of the river's sandy bed. The Bramins predicted that the bridge could never be made, and its successful construction has gone far to shake the faith of the people in the infallibility of their idols, and teach them to regard the God of the foreigner.

It was the time of the *mela*, or annual festival, that brings two or three millions of people to Allahabad to bathe in the sacred waters where the Ganges and Jumna unite. Early in the forenoon our friends went to the flat plain at the junction of the rivers—a triangular stretch of sand measuring a mile or more on each side, and so low that it is covered during the season of floods. Their carriage was not allowed to proceed farther than the edge of this plain, through fear of accidents, but they hired an elephant that was equipped with a couple of chairs of the "settee" pattern placed back to back, and affording accommodation for half a dozen persons. Thus mounted, they rode over the ground of the assemblage, and had a capital view of the scene.

Doctor Bronson thought there were at least 100,000 people on the ground, and it is said that the crowd sometimes numbers half a million. They come from all parts of India, and there are few acts considered more pious than the pilgrimage to Allahabad. As if the sanctity of the two rivers was not sufficient, the priests teach that there is a third river, invisible to mortal eyes, which flows directly from heaven to unite with the Ganges and Jumna, and it is at the point of the triple union that the bathing ceremony is performed.



HINDOO FAKIRS CUTTING THEMSELVES WITH KNIVES.

The boys had never seen so large a crowd as this, nor even one so curious. There were pilgrims of all degrees, poor men and women who had begged their subsistence along the road, and rich men who came in grand state with trains of elephants and camels, and with gorgeous tents spread for their occupation. There were many *fakirs*, some holding their withered hands high in the air, where they had kept them for years. Others with the skin worn from their knees in consequence of dragging their bodies along the roads, and others covered with dust and ashes, in accordance with their vows. It is a peculiar principle of the Hindoo religion that its holiest men are the dirtiest; and if one wishes to get up a reputation for sanctity, his first duty is to become as repulsive as possible by never washing himself, covering his body with rags, allowing his hair to go quite untouched by comb or scissors, to perform some act of bodily torture, and then sit by the roadside and beg for food. The fakirs are even exempt from the injunction to bathe in the holy rivers, possibly through fear that the accumulated dirt, which is the seal of their profession, might be washed away. But they come in great numbers to all the sacred places, and probably the chance of picking up a liberal allowance from the charitable may have something to do with their coming.

Formerly there were great cruelties practised by these fakirs on themselves in the name of religion, but they are no longer allowed. They used to fasten hooks in the flesh of their backs and then be swung in the air; they slashed their flesh with knives, or pierced it with nails and spears; placed fire on their heads till their scalps were burnt through, and did many other cruel things. The boys saw several of these fakirs whose hands had been so long held upright that they were fixed in that position, and others whose finger-nails had been allowed to grow until they were turned like the claws of birds and pierced the palms of the hands. One man had his feet and hands bound together, and was rolling along like a cart-wheel, and the Doctor said he had doubtless come hundreds of miles in this way.

At the junction of the rivers the crowd was more dense than elsewhere, and hundreds of persons were clinging to rafts anchored for the safety of those who could not swim. Before a pilgrim enters the water he sits on the bank and submits himself to a barber, who removes his hair and beard and throws them into the river. He is told that for every hair he thus gives to the gods he will have a million years in paradise. After the shaving is over he bathes; the next day he goes through a ceremony in honor of his ancestors, and is then ready to depart for home. From where the boys sat on the back of their elephant,

A PILGRIM CARRYING RELIGIOUS RELICS.

near the junction of the rivers they saw dozens of barbers at work; men with long hair and beards would sit down in front of one of these operators, and rise a few minutes later shorn of what had formed their principal attraction.

The priests who have charge of this festival make a great deal of money, as the pilgrims are required to pay according to their means for the services of the barbers and the privilege of bathing. Several times it has been proposed to make an end of this idolatrous worship by closing the place altogether, and giving a cash allowance to the owners to replace their revenues. But the Government is unwilling to interfere in the religion of the people, and so the festival is kept up. It occurs in the months of January and February, and is one of the curious sights for a traveller in India.

Allahabad means "the city of God." The name was given to it by the great Moslem emperor, Akbar, who conquered it from the Hindoos, and built a fort, which is now occupied by the English garrison. During the Mutiny the European residents took refuge in the fort, where many of them died of cholera before the army came to raise the siege and relieve them from their imprisonment.

The population of Allahabad is a mixed one of Moslems and Hindoos, the former descended from the conquerors of 300 years ago, and the latter from the more ancient inhabitants. As the boys drove through the Moslem portion of the city, they passed a school where some bright-eyed boys were learning their lessons under the supervision of a teacher of their race and religion. All were squatted on the floor, and the books they were reading were, according to the Doctor, portions of the Koran. The lessons are studied aloud, each pupil for himself, and consequently a Moslem school is the reverse of quiet. The Koran is the principal text-book, and often the only one; after the pupil has mastered it he is instructed in arithmetic, and sometimes he learns a little geography, but not much. There are higher schools and colleges where scientific instruction is given, but they are not easily entered except by the boys of well-to-do parents.

While our friends were resting in the hotel after their round of sight-seeing, the conversation turned upon caste—that peculiar social and religious institution to which reference has already been made. In response to the inquiries of the boys, Doctor Bronson said the system of caste was not fully understood even by those who had lived for years in India, but it might be described in a general way as a distinction based on birth, and incapable of change.

MOSLEM SCHOOL AT ALLAHABAD.

"There are," said the Doctor, "four great castes, and these have numerous subdivisions, which include eighteen principal and more than a hundred subordinate classes. By the rule of caste no man can ascend to a higher or go down to a lower; he may commit murder and other crimes without losing caste, but if he violates any of the rules of ceremony, however slight, he becomes an outcast, and can only be restored on payment of a fine proportioned to his means. For some offences there is no restoration; the outcast, whether temporary or perpetual, is not recognized by his friends or even by his family, and any one who ventured to speak to him or give him the least assistance would be liable to the same fate.

"The four classes are, first, the Bramins, who are supposed to have

come from the head of the Creator, and to be endowed with attributes of divinity which all below must recognize. Kings and emperors are not exempt from paying reverence to the Bramins, and the poorest of the latter considers himself superior to the Sovereign of England or the Emperor of China. The Bramin is of so exalted a character that he will eat no food that a man of lower caste has touched, and even to allow the shadow of the latter to fall on him would be pollution. In Southern India it was formerly considered quite justifiable for a Bramin to strike dead a low-caste man who had touched him, whether accidentally or otherwise, and in the native states of India at the present time the people of low caste are under heavy disabilities.

"The second caste have a sort of sacred character, but far below that of the Bramins; they are the military and executive class, and carry out the laws which the Bramins make. The third caste comprises the mercantile and agricultural classes; and the fourth, or *sudra*, includes all the servile classes, who must remain forever in a state of dependence, and are not allowed to acquire property, or even to be instructed in anything more than the work they have to do. It is forbidden for a Bramin to read the sacred writings to the sudras, or give them any religious instruction whatever. Below the sudras are the *pariahs*, or outcasts; no men of any caste will associate with them, and they are regarded as utterly without any redeeming qualities. A pariah who should come into the presence of a Bramin, under the old rules of caste, would be liable to be put to death.

"Though the distinctions all exist in India, it is well known that they are rapidly breaking up. The second and third castes are being mingled so that it is hard to tell one from the other; the introduction of the railway, which throws men of all castes together, and often compels them to touch each other while sitting in the same carriage, is doing much to destroy the system, and the Government has enacted laws that aid in the movement. By the rules of the system, loss of caste is followed by forfeiture of all property and civil rights; but the Government steps in and prohibits any such forfeiture, and in several instances has punished the priests ordering it, by convicting them of conspiracy, and sending them to prison. From present indications it may be hoped that the caste system will some day be abolished, though such a result can hardly be looked for in our lifetime."

In the afternoon they took another drive through Allahabad, and as they passed the prison one of the boys indicated a desire to see it. The carriage was stopped, and the Doctor was taken to see the superintend-

ent, who permitted the strangers to enter. In one cell there were three ill-looking fellows, who were said to be robbers, and in an adjoining cell there were four equally repulsive characters, described as Thugs. The Doctor expressed his surprise, as he had supposed the system of *Thuggee* or *Thuggery* was extinct; but the chief of the prison said that once in a while bands of Thugs were found plying their trade, and they generally proved to be some who escaped arrest in the general movement for their suppression, or were simply robbers who had adopted the principles of the Thugs. In other cells and in corners of the yard were some ordinary thieves and other violators of the law; there was nothing attractive about the place, and after a short visit the party withdrew.

HINDOO ROBBERS IN PRISON.

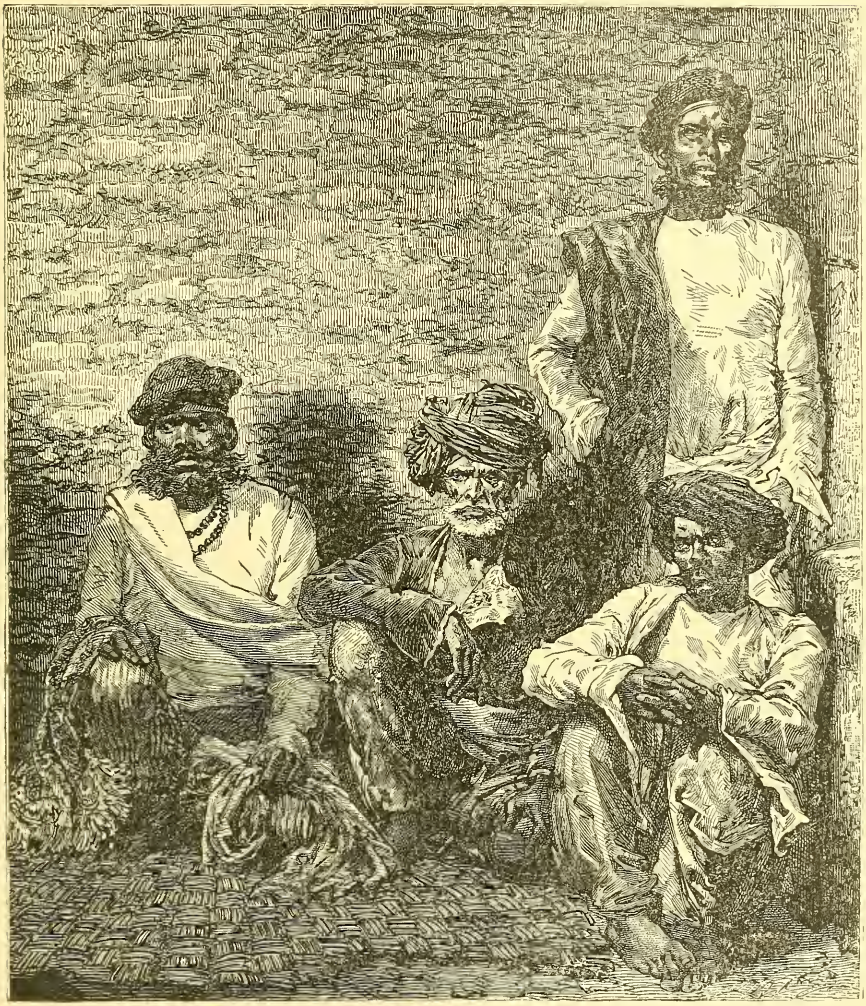
As they rode away from the prison, one of the boys asked Doctor Bronson to tell them about the Thugs, and their peculiarities.

"It may astonish you," replied the Doctor, "to learn that they were a body of assassins religiously devoted to their horrible work. They went about murdering people, and supposed they had the approval of their goddess in doing so."

The Doctor had surmised rightly, as the boys opened their eyes

widely in the astonishment which this information caused. When the eyes had resumed their former appearance, he resumed:

"The discovery of the existence of this organization was made by accident, or rather through the guilty conscience of a member of it.



THUGS AWAITING TRIAL AT ALLAHABAD.

"One day, in the year 1829, a native came to Colonel Sleeman, an officer of the English Government. and confessed that he was the leader of a gang of Thugs in the neighborhood, and showed where many of the

victims had been buried. An investigation proved the correctness of his statement, and the members of the gang were arrested; one discovery followed another, till it was known that the organization extended through all the provinces of India, and that the different gangs had their *jemadars* or leaders, *garus* or teachers, *sothas* or entrappers, *bhuttotes* or stranglers, and *lughaees* or grave-diggers. They worshipped the goddess *Kali*, and always consulted her before starting on an expedition, and if the omens were wrong they abandoned their plans.

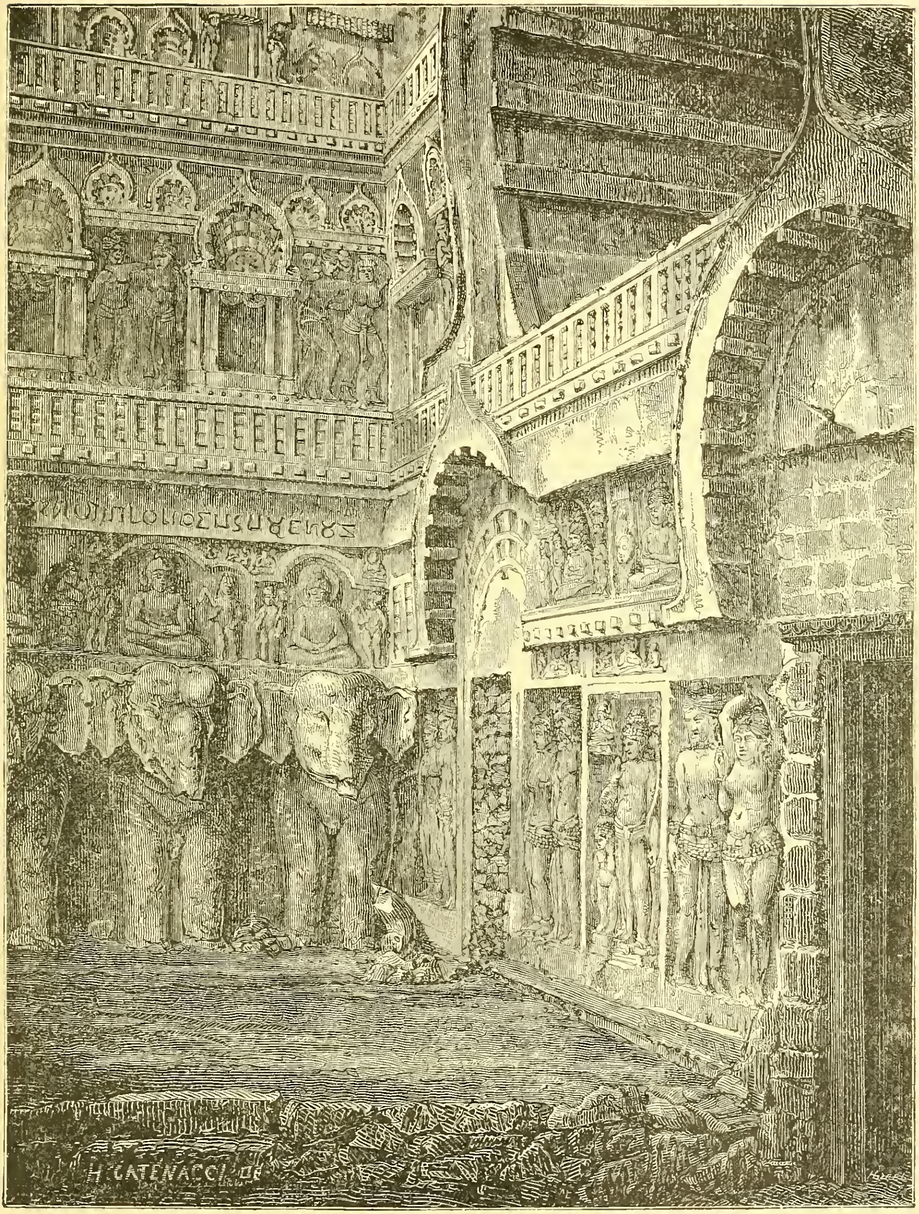
"They went in the disguise of merchants or pilgrims; robbery was the object of the murders they committed, and the proceeds were divided as follows: one third to the goddess, one third to the widows and orphans of the sect, and the remaining third to the assassins themselves. The teachers or spies learned the route of an intended victim, and informed the entrappers, who lured him away from the road or to a secluded place, where at a moment when he suspected no danger the stranglers killed him by suddenly throwing a handkerchief around his neck and twisting it tightly. Then the grave-diggers performed their share of the business, and after it was over the party went to the temple, divided the spoil in the manner I have mentioned, and partook of a sacrament by way of purification.

"They did not kill Europeans, for fear of detection, and they also exempted women and old men from their operations. After the existence of the order was discovered arrests were made all over India, and some thousands of the murderers were taken. Many were executed for their crimes; the least guilty of them were colonized near Jubbulpoor, with the women and children of the organization, where they were kept separate from others, and still remain under Government supervision and employment."

There was not a great deal to be seen at Allahabad besides the festival at the junction of the rivers, as the fort contains nothing remarkable, and there are no public buildings of consequence. The train for Bombay left in the evening, and Doctor Bronson and the boys went by it for a direct ride of 845 miles, which they accomplished in forty hours.

The Doctor had originally intended to stop on the way to visit the Caves of Ellora; but circumstances made it inconvenient to do so, and the plan was abandoned. He told the boys that the caves ranked next to the Pyramids of Egypt as works of human labor, and were far superior to them in artistic character.

"You have seen," said he, "toys made in Switzerland and other countries where the side of a block of wood is cut into, and the wood slowly



VESTIBULE OF THE GREAT TEMPLE AT ELLORA.

chipped away so as to leave figures of men, trees, or other things standing inside of a hollow space?"

Both the boys remembered that they had seen toys of this description.

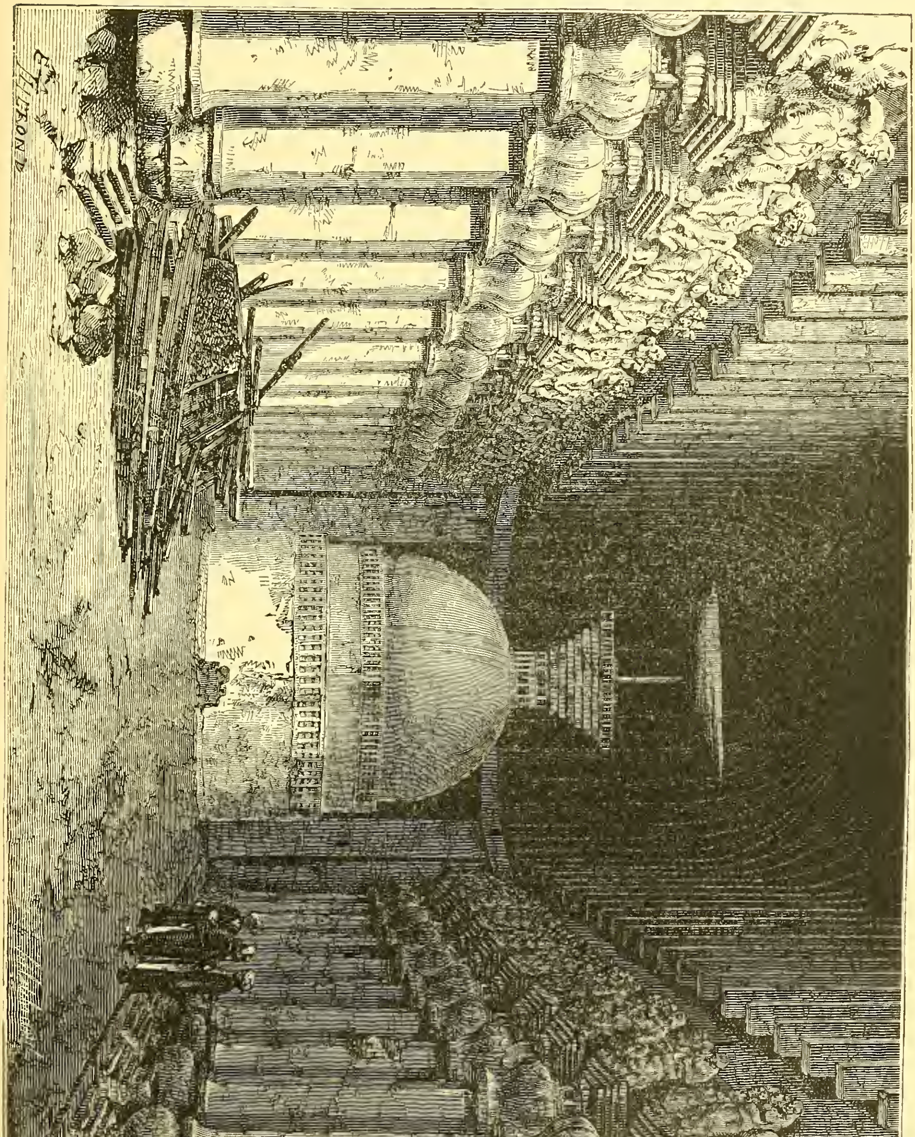
"Now," he continued, "imagine that the block of wood is a rock 600 feet high, and two miles long, rising, with very steep sides, from a level plain."

"Yes."

"And then imagine that the solid rock is cut away so as to leave temples, pyramids, obelisks, and statues of various kinds, just as the wood is chipped away in the Swiss toys. If you can picture these in your mind you will have a vivid conception of the wonderful Caves of Ellora. They extend for more than a mile along the base of a hill such as I have described, and the labor of making them is almost incalculable. Here is the account of one of the excavations, written by a gentleman who visited the place:

"'The cave called *Khailas*, or Paradise, is the largest and most elaborate of the series. It is a quarry-like excavation, 250 feet deep; its length is 401 feet, and its breadth 133 feet. There is a wall of solid rock separating the enclosure from the plain. The interior of the quarry is occupied in the centre by the temple. This is of the usual form, consisting of the shrine, with its pyramidal dome, and several pillared porticoes and halls. The sides of the quarry are steep, and hollowed out into successive stories of halls and galleries, into which light is admitted by open colonnades. All these buildings—the great temple, its porticoes and galleries, as well as the other apartments, and the massive wall which divides the whole from the valley—are carved and quarried out of the solid rock.

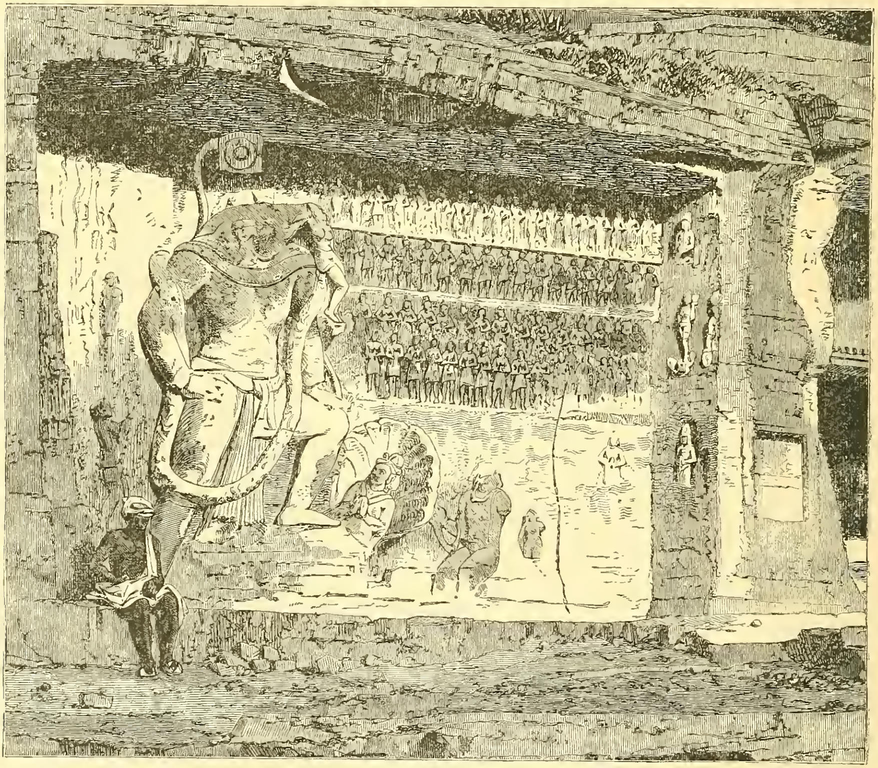
"'The temple is about 85 feet high to the top of the pyramidal spire over the shrine. Its length, including the porticoes, which are connected with it by hanging galleries of stone, is not less than 150 feet, and the greatest breadth about 90 feet. The largest apartment is 66 feet by 55. Its ceiling, which is supported by heavy square columns, is not more than 12 feet high, and carved to represent rafters. The columns and walls of the apartment were most elaborately carved, as was also the whole exterior of the building; the designs represent the exploits of Ram in Lunka. or Ceylon, and the chambers and galleries in the sides of the quarry were similarly decorated. In the enclosure between the temple and gate-way are two obelisks, 75 or 80 feet high, supported on the backs of elephants. Like all the other buildings and accessories, they are carved from the solid rock.'"



INTERIOR OF TEMPLE HEWN FROM THE ROCK.

One of the boys asked what was the probable age of the Caves of Ellora, and by whom they were made.

"They are thought to belong to different centuries," replied the Doctor, "as some of them are of Braminical character, while others were made by the Buddhists. It is believed that the most modern were made about 900 years ago, and possibly the oldest were excavated 1000 years earlier. Every Hindoo divinity has a shrine there, and it is strange that there is nothing certain about their history. The natives say they were the work of the gods, and are at least 9000 years old; another tradition says they were all made by one man, and that he would have excavated more caves if he had not cut his hand so severely one day that he was disabled from further work."

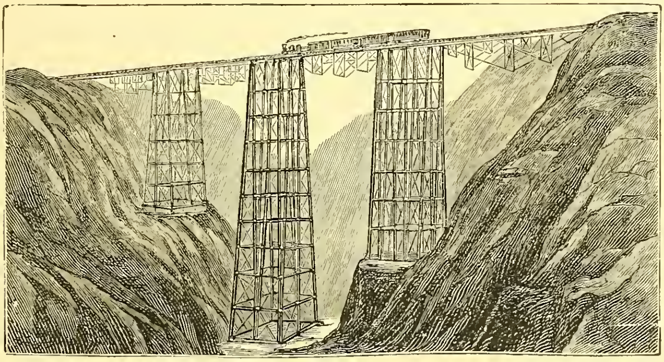


MURAL SCULPTURES AT ELLORA.

CHAPTER XXXVI.

A SHORT HISTORY OF INDIA.—THE SEPOY MUTINY.—PRESENT CONDITION OF THE ARMY IN INDIA.

AT six o'clock in the morning after the departure from Allahabad the train brought the three travellers to Jubbulpoor, 229 miles from the junction of the Ganges and Jumna rivers. Here the East Indian Railway terminates, and the rest of the journey was made over the Great Indian Peninsula Railway. The appearance of the country told very plainly that they were no longer in the valley of the Ganges; the broad plain disappeared, and in its place there were wooded hills and mountains which afforded many picturesque views. A few miles from Jubbulpoor



RAILWAY VIADUCT IN THE MOUNTAINS.

the train entered the valley of the Nerbudda River, which was followed for a long distance; then it ascended a steep incline to cross a chain of mountains, and afterward descended to the valley of the Godavery. The Ghaut Mountains of Central India were seen in all their magnificence, and the boys frequently compared the views from the car windows to those that greet the traveller over the Alleghanies, on the great routes westward from the seaboard cities of the United States.

The mountain passes on this route are the Thull Ghaut and the Bhore Ghaut, which are respectively 1912 and 2027 feet above the level of the sea. The steepest inclines are one in thirty-seven, or about 143 feet to the mile, and there are many tunnels, viaducts, and bridges, as might be expected in a railway through the mountains. Doctor Bronson said the engineering work was excellent, and very creditable to the builders of the road, though it was not equal to what had been accomplished in America—perhaps for the reason that there were not so many difficulties to encounter and surmount.

The boys had devoted their spare moments to the preparation of their accounts of India, previously promised, and during some of the long rides in the railway train they read aloud the results of their work. Frank had taken the general history of India for his share of the work, while Fred had prepared a short account of the sepoy rebellion; consequently Frank's composition was the first to be read. We are permitted to examine that valuable document.

A SHORT HISTORY OF INDIA.

By FRANK BASSETT.

"There is a good deal of uncertainty about the early history of India, as the Hindoo accounts are not to be believed in any way. They make the Hindoos the first people that ever lived here, and give their race an antiquity of millions of years; they talk about kings and dynasties that never existed, and mix their performances with those of their gods. Here is a fair sample of their stories:

"'A goddess in Ceylon had a headache, and it was said the only thing that could cure her was a plant on one of the Himalayas, a thousand miles to the north. One of the gods went to bring it, and was gone only a few hours. When he got to the mountain he was not sure which plant was wanted, and so he took the mountain on his shoulders and carried it to Ceylon, and he did it so quietly that none of the inhabitants or wild animals that lived on the mountain were disturbed in the least. Going over a plain of Central India he dropped a few stones from the mountain, and formed a range of hills that stand there to-day. If anybody doubts the truth of the story he can see the hills, and then he must be convinced.'

"The Hindoos are thought to have come here, about 3200 years ago, from the north; they enslaved the wild tribes that lived in the country, and traces of these aborigines are still to be found in Central and South-

ern India. The Persians under Darius conquered a part of the country; and then Alexander the Great destroyed the Persian Empire, and of course took what belonged to it in India. The country was then divided

HINDOO GIRL OF HIGH CASTE.

into numerous small kingdoms, which were quite independent of each other; many of them were captured by the Mohammedan conquerors who began to come here eight or nine hundred years ago, and kept coming till within 200 years. The story of their wars, and of their empires

and kingdoms, would fill a large volume, but we will skip them all, as even the shortest account would be tedious.

"In 1599 a company was formed in London, called 'The Governor and Company of Merchants of London Trading with the East Indies,' which was afterward shortened to 'The East India Company.' Queen Elizabeth gave them a charter, and a monopoly of all trade east of the Cape of Good Hope, for fifteen years, and they had a capital of £30,000.

"The company did so well in the first fifteen years that it had its charter renewed, with more capital, and every fifteen or twenty years afterward, down to the year 1854, it was renewed in one form or another. The capital was increased with most of the renewals until it reached £6,000,000, or $30,000,000, in 1793; it remained at that figure, but the profits were so great that the shares were often held at five or six times their par value. From a very early period in its history the company had the power to govern the country, to make war upon all barbarous people, to administer laws not conflicting with those of England, and to make such laws of its own as were thought necessary.

"From 1833 the company ceased to be a trading association, but was continued in the Government of India, the country being thrown open to any British subject who chose to engage in business. All the property of the company was declared the property of the English Government, and held in trust for it by the company, which was to receive ten per cent. dividend on its stock, and the Government was privileged to buy the stock at any time at twice its par value. The last renewal of the charter was in 1854, but not for any definite period; in August, 1858, the company was virtually abolished by act of Parliament, and all its powers were transferred to the Queen, its army and navy were declared a part of the national forces, and all persons holding commissions under the company were transferred to the service of the Crown. Thus ended an association that had existed more than 250 years, and conquered a country containing nearly a fifth of the inhabitants of the globe.

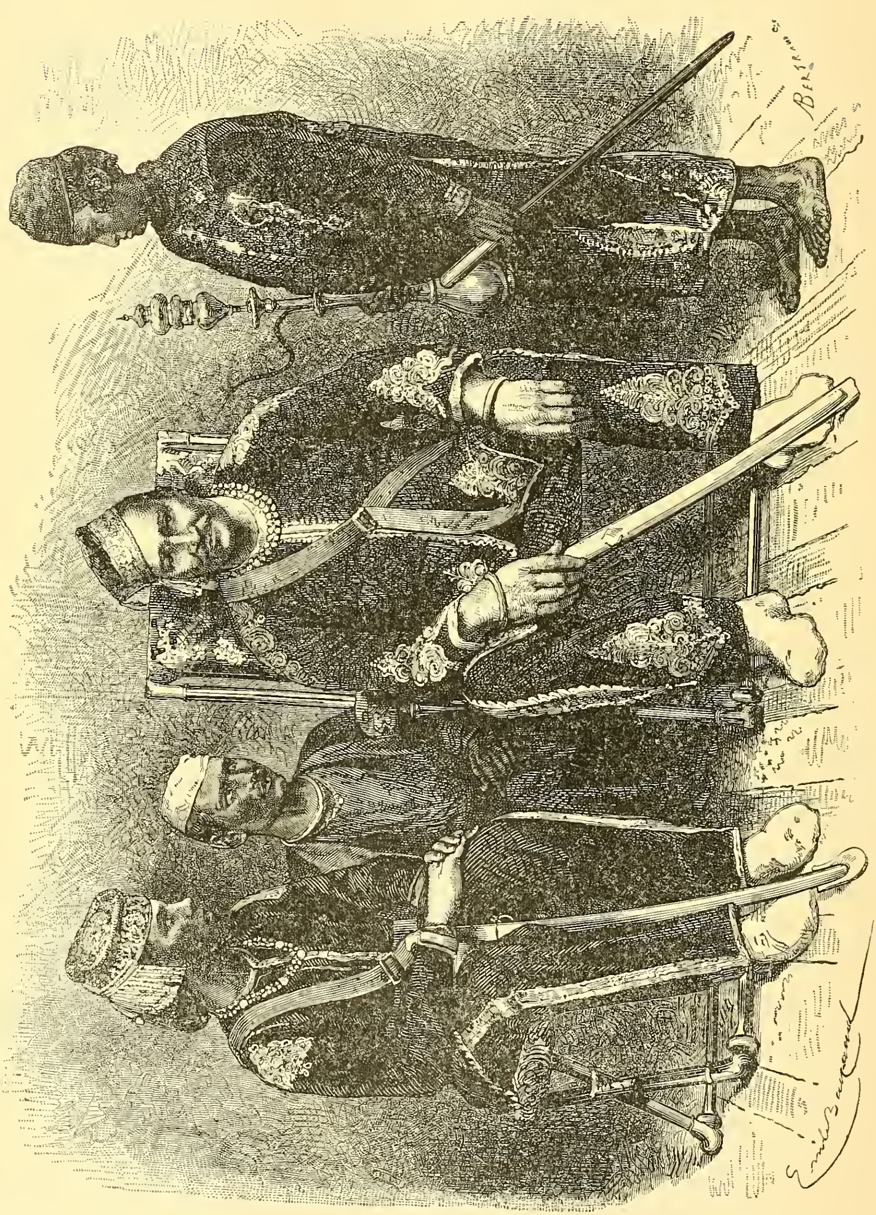
"Since 1858 the power of the British Government has been extended and strengthened, while that of the old 'John Company,' as it was called by the Chinese, has disappeared. The Governor-general of India is appointed by the Queen, and he lives at Calcutta in the winter season, and at Simla in the summer. There is a Governor for each of the presidencies of Madras, Bombay, and Bengal, and under him are all the local and district commissioners, collectors, and other officials. Then there are lieutenant-governors, or commissioners, for the Punjaub, North-west Provinces, Oude, Central Provinces, and Scinde; while the provinces of

Hyderabad, Mysore, and one or two others are controlled directly by the Governor-general. The villages manage their own affairs, subject to the approval of the officer in charge of the district where they are located, and the native magistrates are held responsible for the good conduct of their subjects. In some parts of the country the land is leased to *zemindars*, or large landholders, and sublet by them to the villages; in others the villages lease from the Government; and in others the individual cultivators take leases and pay their taxes without the intervention of anybody.

"The power of the Government is not the same all over India. In some parts of the country the title of the native princes has been quite extinguished, while in others they live almost as they did before the English went to India; they collect their taxes, maintain their armies, make their own laws, have their thrones, courts, and ceremonies, and do pretty much as they like. An English official, called a 'resident,' or political agent, lives near the prince, and when he thinks the latter is going too fast he gives a gentle hint to that effect. The prince is restricted as to the number of troops he shall keep under arms, and he pays a tax to the Government in return for being let alone. The resident has a force of English troops to support him in case of trouble, and the prince cannot make war upon any other prince without the resident's permission, which he is not likely to obtain. Before the Mutiny there were many native states of this kind; those whose rulers remained loyal to the English have been continued, but those who joined the rebels were absorbed into the British possessions, and the princes were dethroned. Altogether, there are now about seventy natives states, but some of them are very small.

"The largest of the native states is Gwalior, and its prince, Scindia, holds a very high rank. When he goes to Calcutta he receives marked attention from the Governor-general, and his privileges are greater than those of any other prince. Indore and Baroda have a form of Government similar to that of Gwalior, the resident having a force of troops to protect the British interests and maintain the authority of the prince. Rajpootana consists of eighteen native states, under as many rajahs, or princes; each of them has an English official near him, and the whole are under the orders of the British political agent, who resides at Ajmere. There is rarely any trouble between the native rulers and the political agents, as the former know very well that a revolt would be certain to cost them their power, and possibly their heads.

"These princes are fond of ceremony, and whenever a foreigner of



A NATIVE PRINCE OF INDIA, WITH HIS SONS.

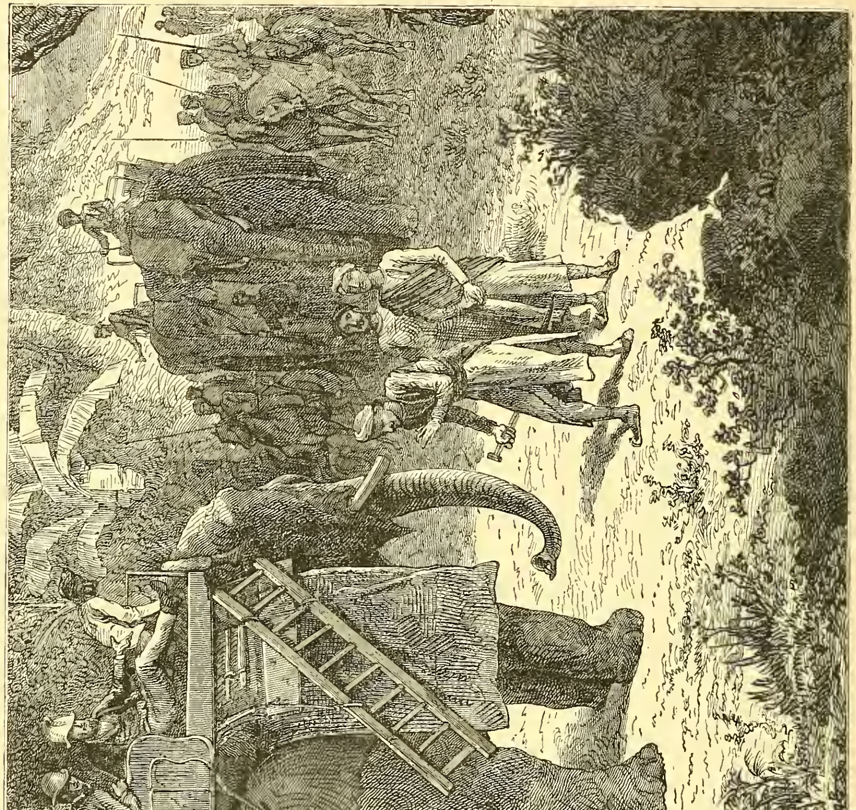
distinction pays them a visit he has a special 'durbar,' or reception, in his honor. Frequently he is met at the frontier by a deputation of officials to escort him to the capital, and soon after his arrival the ceremony of *attar and pan* is performed. The guests are received by the prince, and as soon as the formalities of presentation are completed each guest receives a handkerchief of the finest muslin covered with delicate embroidery. This is placed on the palm of the recipient's open hand, and then the prince rises and pours attar of roses on the handkerchief, and at the same time throws a garland of jasmine flowers alternated with small pearls around the neck of the visitor. The ceremony is an ancient one, and was introduced by the Mogul conquerors of India centuries ago.

"The English understand this native love for display, and encourage it on many occasions. For example, when the Queen of England was proclaimed Empress of India there was a grand durbar at Delhi, which lasted twenty-one days, and cost an enormous amount of money. A great many native princes were invited to the festival, and so were all the foreign consuls in Calcutta and other cities of India; nearly half of the troops in India were gathered there, and not a day passed without a ceremonial of some kind or other."

Here ended Frank's history of India; the youth explained that he might have made it much longer, and had been puzzled to know when to stop. He only wanted to give a short account of the country which would not be tedious; and if any boy or girl wished to know more—and he hoped he had roused their curiosity to do so—there were plenty of books to be had on the subject.

Fred's account of the Sepoy Mutiny was now in order. He prefaced his story with an intimation that it would be very brief, as they had already listened to stories of the Mutiny during their visits to Lucknow, Cawnpore, and other places, and his time had been so much occupied that he had only sketched out the causes of the revolt, and the changes in the army since it occurred. Here is the story he prepared:

"The word sepoy is of Persian origin, and means a soldier; and its practical application to-day is to the native soldiers of India, who were first employed by the French about the middle of the eighteenth century. In 1748 the East India Company organized a battalion of sepoys at Madras, and ten years later this small body had grown to a strength of 14,000. Bengal and Bombay followed the example of Madras, and the native army grew steadily till it numbered 240,000 men of all arms in 1857. Each regiment was nominally 1000 strong, and had twenty-four



RECEPTION OF TRAVELLERS.

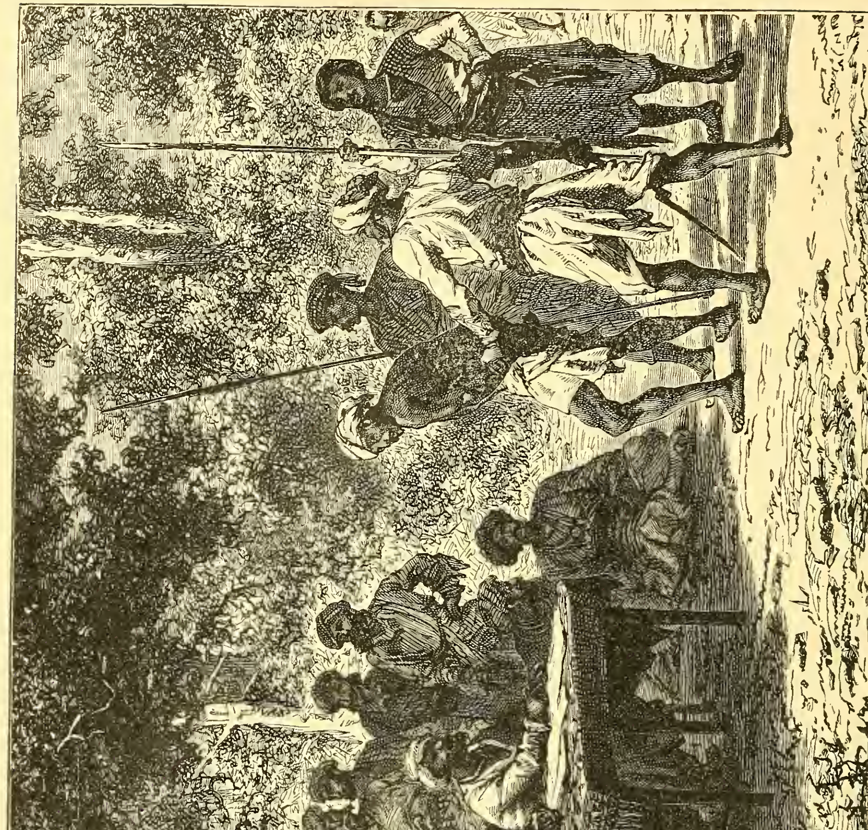
English officers, besides a full complement of native officers for each company; the natives were not allowed to rise above the rank of captain, through fear that they might turn their knowledge against their masters. The failure of the Mutiny is partly due to this precaution, as the rebels could find no man with sufficient military knowledge to lead them properly.

"The regiments were differently composed in the three presidencies. Those of Bengal were mostly high-caste Hindoos; those of the North were Moslems; and those of Bombay and Madras included several classes. The prejudices of caste led to the assemblage of men of one caste only in each regiment, and in this way the revolt was made easy. It was entirely confined to Bengal. Only one regiment in Madras made any trouble; there was none in Bombay, and the troops in the north all remained faithful to England, and aided in suppressing the Mutiny.

"The Bramins had long predicted that the English would be overthrown in 1857, the hundredth anniversary of the battle of Plassey; they organized a conspiracy that extended all over Bengal, and told the soldiers that the cartridges they used, and were required to bite when loading their muskets, contained grease from the cow, an animal they hold to be sacred, the object being to deprive them of caste and convert them into Englishmen. Worse yet, the cow's grease was said to be mixed with that of the pig, the latter animal being detested and abhorred as much as the cow is revered. Other stories were told to excite them against their masters; the revolt was so well planned that there was hardly a suspicion of it till the moment of the outbreak; and so secretly was it arranged that even to this day the English have not been able to learn all the facts connected with it.

"The first outbreak was at Berhampoor, near Calcutta, on the 25th of February, 1857, where the 19th Regiment refused to use the cartridges or obey any orders. The regiment was disbanded a month later, and meantime there had been trouble in other regiments in various parts of Bengal; by the 1st of May the spirit of revolt had spread through the entire presidency, and within a fortnight from that date the horrible massacres of Allahabad, Delhi, Dumdum, and a dozen other points had taken place. The whole country was lighted up with the fires of rebellion, and the ground was red with the blood of the victims, which included every person of European or Eurasian origin on whom the rebels could lay their hands.

"Then came the revenge, as soon as the English could assemble the necessary troops. One stronghold after another fell, and before the end



TRIAL OF A MUTINEER.

of the year the revolt was in a state of suppression; several battles occurred in the spring of 1858, and in some localities the rebels held out till autumn of that year. Anybody who wishes a full account of the scenes of that terrible time is referred to the many books that have been written concerning it, and particularly to 'The Sepoy War in India,' by J. W. Kaye.

"Since the rebellion and its suppression there has been a radical change in the organization of the army. The native forces in all India are about 130,000, and the English 75,000. Compare this arrangement with that which existed at the time of the Mutiny, when the native strength was 240,000 and the English less than 40,000, and you will see a vast difference. Each cavalry and infantry regiment has only eight European officers, including the surgeon, and none of them are attached to the companies, which are all led by their native captains. The native captains are drawn from the higher castes, and appointed to their places, as in England, while in the old formation they were promoted from the ranks, and were often of low caste, so that they were despised by many of the soldiers they commanded.

"In the rank and file the system that made the Mutiny possible has been entirely abandoned; instead of forming a regiment of a single caste,

ENGLISH OFFICERS IN INDIA.

religion, or nativity, great care is taken to mix them up as much as possible, and thus prevent the formation of a plot. Sometimes the companies are from one tribe or district, but no two companies in a regiment are of the same kind. As there can be no affinity under such circumstances, there can be no plot, since there would be no common cause for one. According to the report of Sir Garnet Wolseley, during the last year of his service in India the native army of Bengal contained 6000 or 7000 Hindostanee Moslems, 8000 or 9000 Rajpoots, 2000 Jats, 6000 low-caste Hindostanees, 6000 Punjabee Moslems, 1000 Hindoos, 12,000 Sikhs, 1200 Mwybee Sikhs, 5000 Afghans and Pathans, 5000 or 6000 Ghoorkhas, 4000 Dogras and other hill tribes, besides other classifications of greater or less importance. None of the regiments are kept for a long time in any one place, and whenever a review or other circumstance causes a large number of native troops to be assembled, there is a large British force conveniently at hand and taking part in the manœuvres."

"This may possibly be dry reading to somebody at home," Fred remarked as he folded the paper. "If the young folks don't like it, they can skip a few pages; but I am sure the older heads in the family will wish to know something about the Mutiny and the present condition of the army in India, and therefore I shall make a nice copy of what I have written and send it home by the next mail."

CHAPTER XXXVII.

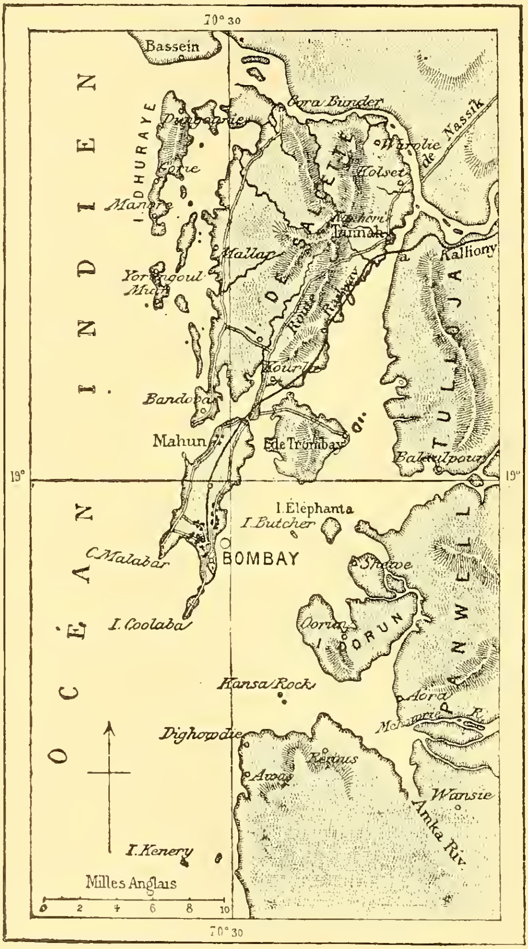
BOMBAY.—THE TOWERS OF SILENCE.—A PARSEE SCHOOL.—CAVES OF ELEPHANTA.—SNAKE-CHARMERS.—FAREWELL TO INDIA.

A WEEK passed pleasantly and quickly at Bombay, where there was much to be seen of a novel character. Bombay is unlike any other city of India, as will be discovered from the account of Frank and Fred, which we are permitted to use in our closing chapter:

"The name of this city is supposed to be derived from *Bonne Baie* (Good Bay, or Harbor), which it was called by the Portuguese more than 300 years ago. The harbor is the finest in all India, as it is twelve or fourteen miles long, by five or six in width; the city stands on an island about the length and shape of the one where New York is built, and in other respects it reminds you of the commercial metropolis of the United States. Bombay has its business section at the lower end, and its residences elsewhere, very much as we find things in New York; it has its Stock Exchange and other places of speculation, and when we went to the Apollo Bunder, or general landing-place, we were reminded of Whitehall and Castle Garden. The creek that separates it from the main-land, or rather from the larger island of Salsette, has been bridged over, like the Harlem River, and the railway comes into Bombay, very much as it does into New York. We could make other comparisons, but the above are sufficient to show that we feel at home in this great city of India.

"The lower part of Bombay is called the Fort, and it had a good right to have that name down to within the past twenty years. Bombay was the first settlement of the English in India; it was bought by the Portuguese from the Moslems, who conquered it near the end of the fourteenth century, and held by them till 1562, when it was given as a part of the dowry of a Portuguese princess on her marriage with King Charles II. of England. When the East India Company began operations it rented the island of Bombay from the king for ten pounds a year, and continued to pay that rental till 1858, when the Company went out of existence. A fort was built on the lower end of the island, just as one was built

about the same time at New Amsterdam (afterward New York), and it stood there till the invention of modern artillery made it useless as a place of defence. Many fine buildings have been erected on the site of the fort and on its esplanade, and as you wander about the streets you are constantly impressed with the business activity that prevails.



BOMBAY AND ITS ENVIRONS.

"In the Fort there are many fine public buildings that must have cost a great deal of money; there are some nice bungalows, or private residences, at Byculla, which may be called the Fifth Avenue of Bombay, and also on Malabar Hill, which corresponds to the upper part of Manhattan Island, in the vicinity of the Boulevard. They tell us that during the American Civil War there was the wildest kind of speculation in Bombay, and enormous fortunes were made and lost; when the crash came everybody suffered; and even to-day the city has not wholly recovered. The high price of cotton caused everybody to speculate in it, and for a while Bombay appeared to be the most prosperous city in the world.

"We will try to tell what we have seen since we came here, but there is so much of it that we shall be sure to forget something.

"To begin at the beginning, the first thing that attracted our attention was the great number of Parsees; we had seen them before in Cal-

cutta, Hong-Kong, and other cities, but when we got to Bombay we found the streets full of them. Doctor Bronson says there are about 700,000 inhabitants in Bombay, and the Parsees are thought to be not far from 70,000; then there are 450,000 Hindoos, 120,000 Moslems, and

A PARSEE MERCHANT.

25,000 Europeans, while the balance is made up of various Eastern races and nationalities. So you see the Parsees are a tenth of the population, and we are told that at least half the wealth of Bombay is in their hands. Bombay is often called the City of the Parsees, and not by any means without good reason.

"The Parsees came originally from Persia, where they had been persecuted for their religious belief; they settled at Surat, and from there a good many of them came to Bombay and to other places along the coast, and it is thought that at least half of all the Parsees in India are in this city. They are sometimes called fire-worshippers, on account of their reverence for fire, and the worship they give to the sun, as the emblem of life. They regard fire as sacred, and will do nothing to degrade it; no good Parsee will venture to smoke, and it is an act of rudeness or ignorance to offer him a cigar or cigarette, or to light a cigar while talking with him. The Parsees are the shrewdest merchants of the East, and a large part of the business of Bombay is in their hands; the leading Parsee houses have branches in London and other European cities, as well as in China and the Far East generally. In every way they are the most influential of all the native inhabitants of Bombay, and are steadily gaining in intelligence and prominence. When they fled to India they brought the sacred fire with them, and it has been kept burning in their temples ever since.

"Doctor Bronson found an old friend from New York,* who had been for ten years a resident of Bombay; through his assistance and in his company we were taken to the cemetery of the Parsees, on Malabar Hill, where we saw their strange way of disposing of the dead. He also took us to a Parsee school, where we saw lots of bright-eyed children, and heard them recite their lessons, which they did very prettily, although the language was one we did not understand. The little girls and boys 'spoke their pieces' just as girls and boys do at a school examination in Massachusetts or New York, and were quite as proud of the medals and prizes that were given to them. The afternoon we spent in visiting the Parsee school was one of the most interesting of our stay in Bombay.

"Very naturally, we were most interested in the girls; they were from eight to twelve years old, and had keen, intelligent faces. Nearly all were pretty as pinks—brown-hued pinks, we may say, as the most of

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* Doctor F. W. Doolittle, an American physician, who had gained a high reputation and had a large practice among Europeans and Parsees. He died suddenly in April, 1880, from the effects of a severe cold contracted while attending a patient.

the complexions had a brunette tinge. Each head was covered with a gold-embroidered cap, and the rest of the costume was quite Oriental, as it consisted of loose trousers, with a white or embroidered frock. The recitations and songs were given in a manner highly creditable to the tiny ladies, and with almost perfect coolness and self-possession. As each little miss—we don't know the Parsee word for miss—came forward to re-

PARSEE SCHOOL CHILDREN.

ceive her prize she bowed gracefully, and marched off to her seat with all the dignity of a princess. And we call these people ignorant heathen!

"On leaving the school, we were invited to visit the 'Towers of Silence' on Malabar Hill, where the Parsees dispose of their dead: it was arranged that we should be at the gate of the cemetery at seven o'clock

on the following morning, when one of the prominent Parsees to whom we had been introduced would meet us. We were there at the appointed time, and so was the gentleman who was to accompany us through the place.

"The Parsees do not bury their dead, but expose the bodies to be eaten by birds. The gentleman explained why they did this, and we cannot do better than use his own words, as nearly as we remember them.

"'This mode of sepulture,' said he, 'was adopted because it was thought the most appropriate and satisfactory. Hindoos burn their dead, but we consider fire sacred, and would not use it for any ignoble office. The earth is the mother of mankind, the producer of the fruits and vegetables on which we live, and the burial of the dead in it is a defilement and an injury. Cemeteries are acknowledged everywhere to be unhealthy, and I believe you have much discussion concerning them in Europe and America. When a body is exposed here it is quickly devoured, and there are none of the gases that arise from cremation or decomposition, nor is the earth defiled in any way. So we regard this as the best way of disposing of our dead.'

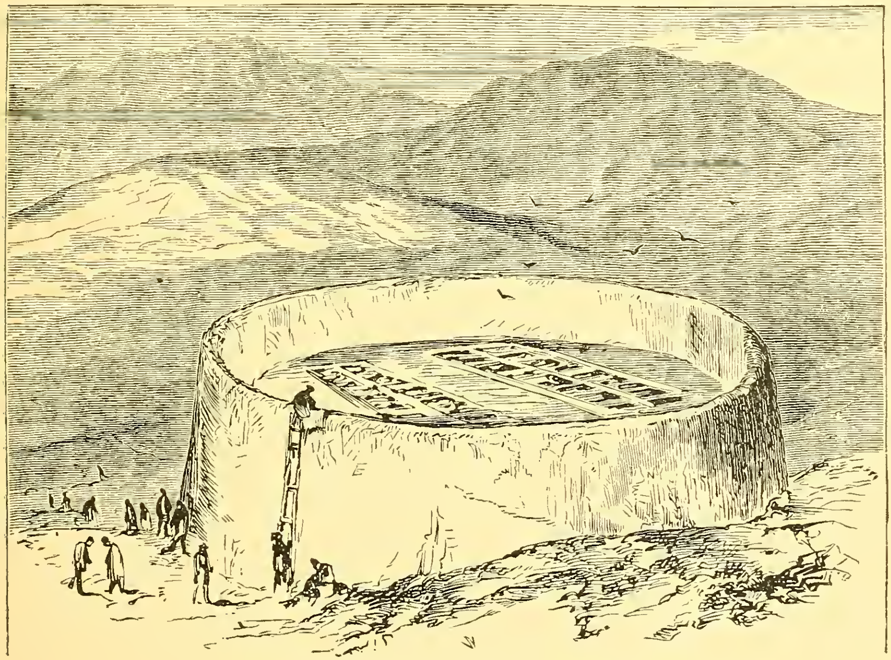
"This explanation was made while we were standing in a building near the entrance of the grounds, where the sacred fire is kept burning on an altar; a part of the building forms a temple, to which funeral parties come to say their prayers, and there are several rooms where the priests and attendants bathe and change their apparel. From the windows there is a fine view of the bay and the country surrounding the city, and a neat garden shows that the attendants of the place are not idlers.

"The other structures in the enclosure are the famous Towers, nine in number, about twelve feet in height and thirty in diameter. In the side of each tower is a double door of iron, where the bearers enter with the bodies of the dead; through these doors no person, not even a Parsee, with the exception of the attendants, is permitted to look; and if any one passes within twenty yards of a tower he is required to bathe and change his clothing before leaving the grounds. This is not a superstitious notion, but is intended to prevent the spread of contagious diseases; and so great is the precaution, that the bearers and priests are required to go through the ceremony of purification after each funeral.

"On the tops of two or three towers, those most in use, a lot of vultures were sitting and waiting the arrival of the funeral processions: they are so eager to perform their work that they sometimes attack the bearers, and the latter always carry stout sticks for defending themselves.

Our conductor told us that within an hour after the closing of the doors on a body nothing remains but the bones, and these are swept into a well in the centre of the tower, where they gradually decay.

"We took a walk among the towers, being careful not to go inside the prohibited limit, and then returned to the entrance. Before we left the grounds our guide showed us a model of one of the towers, and as he did so he told us that the system was not invented by the Parsees of Bombay, but was brought from Persia by their ancestors. The towers in Persia are entered over the top by means of ladders placed against the sides, and not through doors, as in the present instance. The funerals



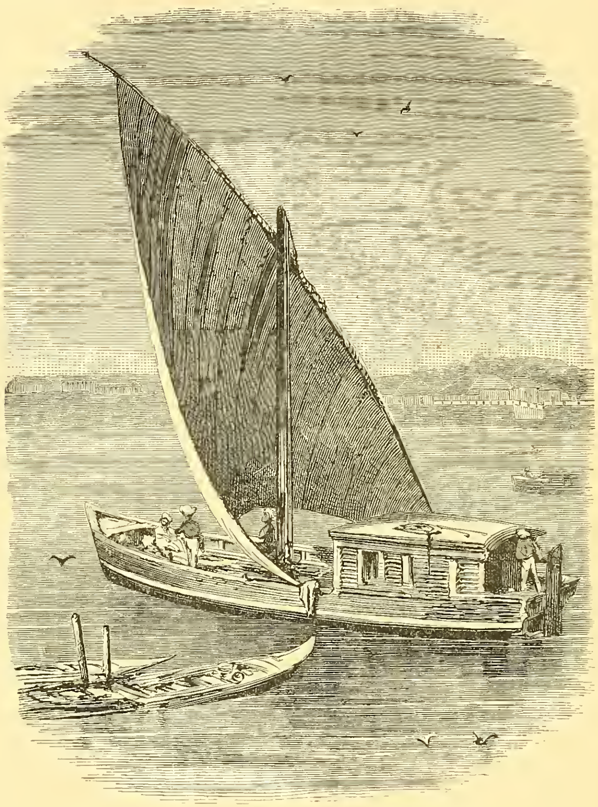
A PARSEE TOWER OF SILENCE, NEAR TEHERAN.

take place at sunrise or sunset—never in the night, and rarely in the middle of the day.

"The subject is not a pleasant one; but so much has been said about the Parsees and their mode of sepulture, that we feel justified for what we have written. From all we have been able to observe, the Parsees are not fanatical on any religious subject, but they carefully preserve their dress and original customs, and are evidently very earnest in their respect for themselves and their ancestry. There are no more intelligent

men in Asia than the Parsees. At least, that is what those who know them best are ready to say.

"From the 'Towers of Silence' we went to see the hospital for ani-



A BUNDER-BOAT.

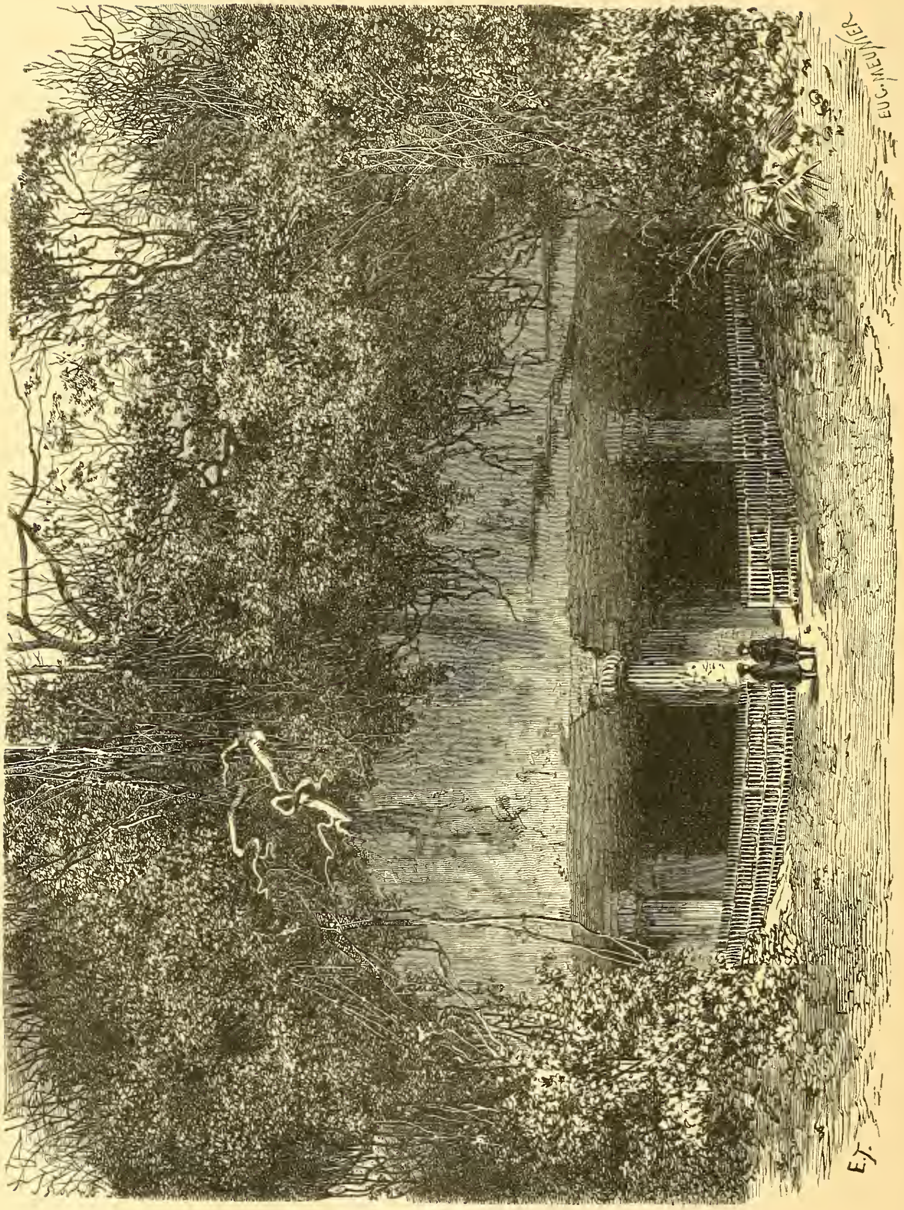
mals, which is a Parsee institution for sheltering all domestic animals that are in need of help. The theory of the charity is an excellent one, but the practice did not strike us favorably. There were many animals closely penned together, and the places where they were kept were not at all clean. There were dozens and dozens of dogs, the most of them ill-conditioned curs, in all stages of canine diseases. They receive no animal food, which would be contrary to Parsee principles, and evidently they do not relish boiled rice. Sheds and stalls were crowded with horses, cows, oxen, sheep, and other domestic animals, some of them suffering

from incurable disease or injury. There were twice as many occupants of the place as could be comfortably accommodated. The hospital was founded on principles of humanity and kindness, but its practical working leaves much to be desired.

"Every visitor to Bombay hears of the benevolence of one of its Parsee merchants, who accumulated an immense fortune in the China trade, and used a large part of it for the benefit of the public. He built and endowed two large hospitals; constructed at his own expense the stone bridge that connects Bombay with the island of Salsette; contributed very liberally to the fund for the relief of the sick and wounded soldiers during the Crimean war, and was famous for many other charities. So great was his liberality and public spirit, that the Queen recognized his merits by conferring on him the honors of knighthood, and afterward raising him to the rank of a baronet. His name, Sir Jamsetjee Jejeebhoy, is rather difficult for American lips to pronounce; but it is familiar as a household word in the mouth of every old resident of Bombay. There is a statue to his memory in one of the public places of Bombay, but his greatest monument is in the hospitals he endowed and the public works he created.

"A study of Bombay would be incomplete without a visit to the famous Caves of Elephanta. Formerly it was necessary to go to them in a bunder-boat, as they are situated on an island seven miles from the bund or landing-place; and as the wind could not be depended on, the excursion was of uncertain length. At present you can hire a steam-launch for about seven dollars, and it will easily accommodate four persons, with their guide, and this is what we did. Steam seems to be driving sails out of use everywhere, even in unprogressive India, and the bunder-boat gives way to the launch, just as the clipper-ship does to the ocean steamer.

"We had a pleasant run across the harbor, and in due time reached the end of the stone causeway that leads up to the caves. The island takes its name from the statue of an elephant that formerly stood nearly half-way from the landing to the caves; it is about five miles in circumference, and is occupied by a hundred inhabitants or so, who raise sheep and poultry to sell in Bombay. The caves are about 250 yards from the water, and consist of a series of temples hewn from the solid rock, or rather of one large temple, with smaller ones at each side. From the entrance to the rear of the cavern it is 123 feet, and the width of the whole is said to be 130 feet. We do not know by whom they were made, but the general belief is that they were excavated about a thousand years ago.

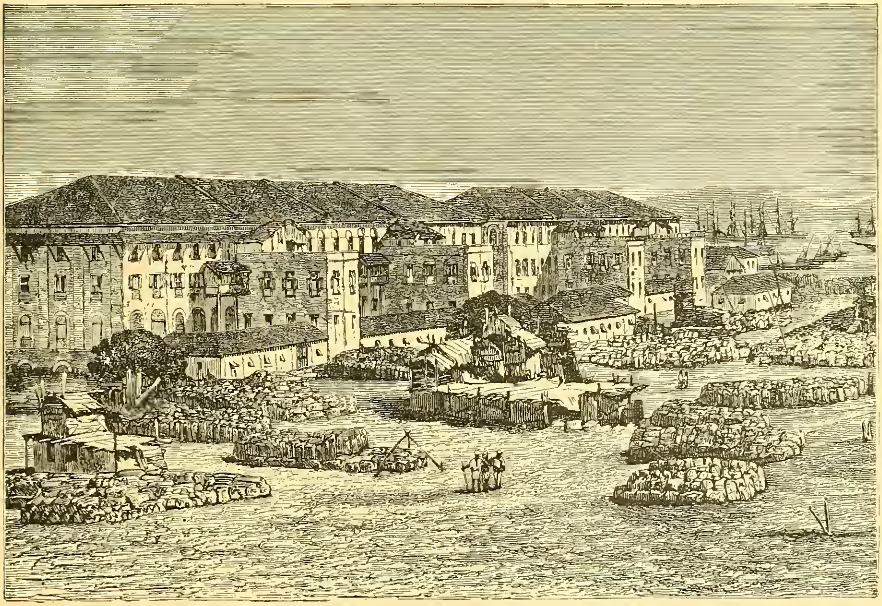


THE CAVES OF ELEPHANTA.

"Stone pillars support the roof, and the interior is so dark that torches are needed for exploring it. The walls are covered with sculptures in bold relief, and both sculptures and pillars have been greatly injured; it is said that the Portuguese placed cannon at the entrance of the cave, and fired solid shot into the temple for several hours, in order to destroy the work of the idolaters. At present the cave is carefully protected, and guards are constantly on the lookout to prevent injury by visitors.

"The sculptures show that the temple, or at any rate a part of it, was devoted to the worship of Siva, one of the Hindoo divinities, as his figure appears in several places, and there are numerous emblems such as we find in his temples elsewhere. There is a three-headed bust to represent the Hindoo trinity—Brahma, Vishnu, and Siva—and in one place there is a figure of Buddha, which is thought to be more modern than the rest. Some persons think this temple is older than the Caves of Ellora, while others believe that Ellora is the more ancient. Nobody can tell, and perhaps it is not of much consequence after all, as either of the works is venerable enough for modern visitors.

"The hotel where we stop is the resort of snake-charmers, jugglers, and others, who hope to pick up a little money by amusing the visitors;



COTTON MARKET AT BOMBAY.

of course they are not allowed to enter the building, but they gather in front of it, especially after breakfast and during the afternoon, so that we can have a performance at any time at very little cost. We had heard a great deal about the wonderful skill of the East Indian jugglers, and have missed no opportunity of seeing them when there was a prospect of something marvellous, but, from all we have observed, we unhesitatingly declare that they do not equal Hermann, Blitz, and other sleight-of-hand exhibitors in the United States.

"Travellers have written about the basket trick, in which a boy enters a basket just large enough to hold him; the performer then begins a conversation with the boy, which becomes more and more violent as it proceeds, and finally a sword is thrust into the basket and apparently pierces the occupant. He screams, and calls out that he is killed. The sword is thrust in again and again; the boy's screams become fainter and fainter, and finally cease, and it is supposed that he has been killed. The basket is soon after lifted, and found to be empty, and the boy appears in the crowd of by-standers. We have seen this trick two or three times, and in each instance there was plenty of opportunity for the boy to escape before the conversation began, and, of course, the screams could be made to come from the basket by means of ventriloquism. In another basket trick the boy remains in the basket, and the sword is handled in such a manner as to avoid touching him.

"A trick more difficult to explain is that of making a tree grow in a short time. The juggler takes a common pot filled with earth, and plants a mango-seed in the centre; then he squats in front of it, and begins playing on a musical instrument, or perhaps he sits perfectly still and looks at the ground. In a minute or so the earth in the centre of the pot swells, and then bursts, so as to show the plant springing from the seed; the shoot appears and rises slowly, and it grows and grows, till at length the leaves come out, the blossoms form, the fruit shapes itself, ripens, and is plucked off and handed to the spectators. The whole process of growth, from the planting of the seed to the ripening and plucking of the fruit, occupies about half an hour, and the performer does not touch the pot or bring his hand near the tree until the fruit is to be plucked.

"Snake-charmers are numerous, and we have looked at them till we are tired of their performances. They carry small baskets about the size and shape of a Cheshire cheese, and with loose covers over the top, as we have previously described. The basket is placed on the ground and the cover removed, while the performer squats by its side and begins playing on a sort of flute. In a few moments the cloths in the basket begin to

move, and the head of a cobra rises slowly from among them; the music continues, and in a little while the snake has come quite out of the basket, and is standing as erect as a snake can stand before its master. He makes a sort of dancing motion, and is evidently fond of the flute, as he lowers his head and goes back to the basket when the man ceases playing.

"While the snake is dancing the man suddenly drops the flute, and, at the same instant, grasps the snake around the neck. The snake becomes enraged, and at the first opportunity bites its master on the hand;

SERPENTS DANCING TO MUSIC.

the latter appears greatly excited, and rubs the wound with a stone, which is said to be an antidote against snake-bites, and he offers to sell it to you for a high price. The fact is, the snake is perfectly harmless, as his fangs have been removed, and he might bite the performer a hundred times over without the least injury. The snake-charmers wind the strange pets around their necks and bodies, and play with them in many ways; and when all their tricks are concluded the serpents are returned to the baskets, and a collection is taken for the benefit of the showman.

"These cobras, like their kindred in Ceylon, have a great fondness for houses, and it makes little difference to them whether the places they inhabit belong to Europeans or natives. It makes you feel uncomfortable to think a deadly cobra may be under your feet as you walk on the grass, or may enter your room while you are sleeping. The other day we were breakfasting with a gentleman whose bungalow is on Malabar Hill, and after breakfast the conversation turned on snakes; he told us of the habit of the cobra, and while we were talking on the subject a snake-charmer came along and wished to give a performance. The gentleman told him we had already witnessed the tricks of the business, but if he could find a snake about his premises he would pay him. We went to the veranda at the rear of the bungalow, and the charmer squatted on the ground and began playing on his flute; in a few minutes the head of a cobra appeared from beneath the bungalow, and as the music went on he crawled slowly out and stood erect in front of the charmer. Quick as a flash the man dropped his flute, and grasped the snake firmly by the neck; it was all the work of an instant, and before we knew what he was about the snake was his prisoner. Holding him firmly by the neck, he brought him near us, and forced his mouth open, so as to exhibit the terrible fangs, with the bags of poison at their base. Our host accepted this as a proof that the snake was not, as is frequently the case, the property of the performer, and had been secretly let loose in order that he might be caught.

"As soon as he had shown us the fangs, the man took a pair of pincers from the folds of his dress and removed the poisonous teeth; then he placed the prize in his basket, as our host had no use for it, and with a couple of rupees as a reward for his services, departed.

"If the snake had succeeded in biting the man his life would have been in great danger, as the poison is much more violent than that of the rattlesnake, and is generally fatal. Prompt application of antidotes will sometimes counteract its effects, but is by no means sure to do so; the snake-charmers have a few antidotes known only to themselves, while the English physicians make use of arsenic, in pills of one grain each, or apply Fowler's solution, and they also give large doses of alcoholic and other stimulants, in the same way that rattlesnake bites are treated in America. Our host said that from fifteen to twenty thousand lives are lost in India every year by the bites of venomous serpents. It is very rarely the case that Europeans are bitten, for the reason that they walk about very little, and besides, they are always clothed, and have their feet covered with shoes, while the natives are barefooted.

"It is getting late, and we must stop writing. We could teli more about snakes if we had time and space; more about Bombay, and a great deal more about India. It is a vast country; and though we have seen many things since we entered it, we feel there is much more that we have not seen. How could it be otherwise, when the population of India includes not far from a fifth of the whole human race, and comprises so many kinds and tribes of men that we are lost in the attempt to enumerate and describe them? We have told all we could in the short time at our disposal for observation and writing out the result, and if you want more knowledge about this wonderful land we must refer you elsewhere.

"To-morrow we leave Bombay by steamer. Doctor Bronson says we go under 'sealed orders,' as ships of war sometimes do when it is desired to conceal their destination, and our orders will be opened when we are out of sight of land. We cannot say what are his reasons for thus concealing our future movements, but we know they are entirely proper, and therefore we are satisfied. Of course you will hear from us again; you have indicated your satisfaction at what we have sent home heretofore, and consequently we shall be encouraged to continue our descriptions of the countries it may be our fortune to visit.

"And so we say good-bye to India, and good-bye, for the present, to friends at home."

FAREWELL TO INDIA.